

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



Entered at the Post Office at Chicago, Ill., for transmission through the mails at second-class rates.

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
MITCHELL BROS. COMPANY,
(INCORPORATED.)

VOL. XVI.

CHICAGO, ILLINOIS, MARCH 15, 1898.

No. 9.

{ ONE DOLLAR PER ANNUM.
SINGLE COPY, TEN CENTS.

Excelsior Grain-Cleaning Machinery

CONSISTING OF THE

EXCELSIOR Dustless Warehouse and Elevator Separator,
EXCELSIOR Oat Clipper, EXCELSIOR Separator and Grader,
EXCELSIOR "Combined Grain Machine."

ALSO

PEASE DUSTLESS SEPARATORS and WAREHOUSE FANNING MILLS,
POWER CAR PULLERS, GASOLINE ENGINES, STEAM ENGINES, HORSE POWERS
POWER TRANSMISSION MACHINERY,
GENERAL MILL AND ELEVATOR SUPPLIES.

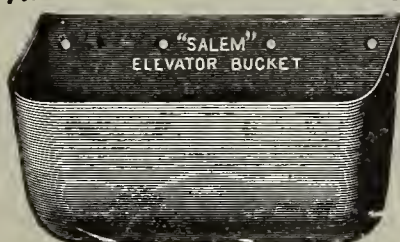
E. H. PEASE MFG. CO., RACINE, WISCONSIN.

ADDRESS

Headquarters for
SHAFTING, HANGERS, PULLEYS,
GEARS, SPROCKET WHEELS,
"Sweep" and "Tread" Horse Powers,
Elevator "Boots," "Heads," "Buckets,"
FEED GRINDERS,
Special Flax Mills; Single, Double and
Quadruple Flax Reels.
..... BELTING
"Platform," "Hopper" and "Dump"
Scales, Flexible Loading Spouts.
Corn Shellers, all kinds of FITTINGS,
SUPPLIES and MACHINERY for
Elevators and Mills.
Elevator Equipments a Specialty.

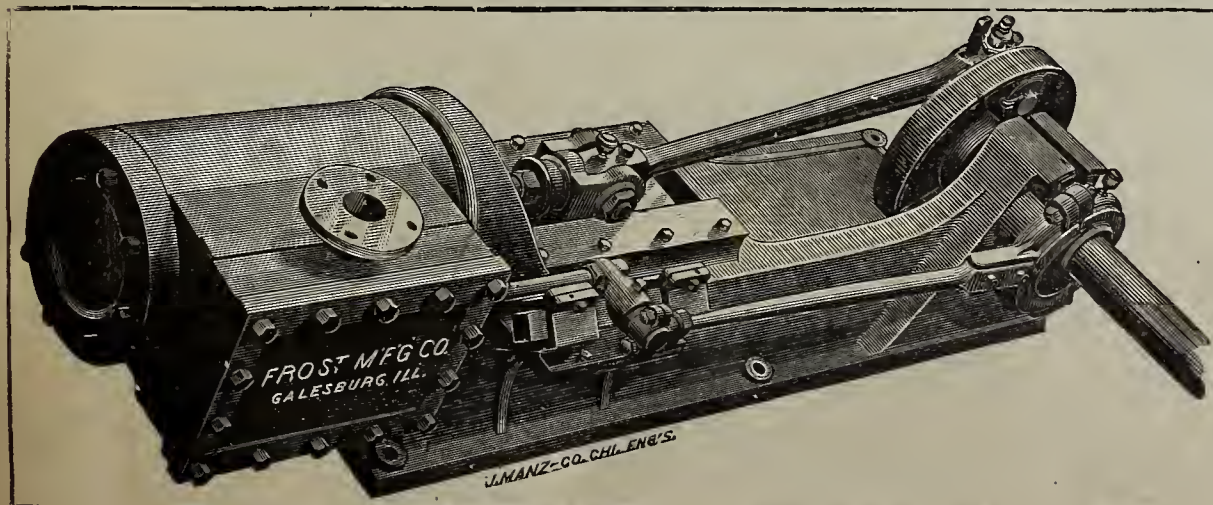
GALDWELL
CONVEYOR
HORSE POWERS
WIRE ROPE
BELT TIGHTENERS

MILL AND ELEVATOR MACHINERY
ELEVATOR BOOTS
ELEVATOR BUCKETS
ELEVATOR BOLTS
BELTING AND ROPE TRANSMISSION
SHEAVE WHEELS
SHAFTING, HANGERS
SPROCKET WHEELS



SEND FOR CATALOGUE

THORNBURGH-
CREEL CO.,
245-247 S. Jefferson St.,
CHICAGO, ILL.



FOR PRICES AND DISCOUNTS
—ON—
Elevator Machinery
AND SUPPLIES
—OF—
Every Description,
EITHER STEAM OR HORSE-POWER,
ADDRESS —
THE FROST MFG. CO.,
GALESBURG, ILL.

THE PAINE-ELLIS GRAIN DRIER

Several Patents Pending. \$50 Reward for First Notice of Infringement.

NOTE THESE RESULTS:

No grade corn containing .07½ per ct. excess dampness dried and ventilated in 55 minutes.	No grade wheat containing .07½ per ct. excess dampness dried and ventilated in 60 minutes.
---	--

A GRAIN DRIER THAT WILL DRY.

OUR apparatus consists of a drying box or bin with alternate grain and air spaces arranged perpendicularly, and a steam coil and fan for driving hot and then cold air through the grain. Must and other odors are almost entirely eliminated by this process. The drier as well as the fan and steam coil are self-contained so that the entire apparatus can easily be set up and connected with a steam plant. We are prepared to furnish driers of 50, 100 and 200 bushels' capacity, and as they can, as a rule, be filled and emptied hourly, their capacity ranges from 1,200 to 4,800 bushels of dry grain in twenty-four hours. Larger driers will be constructed when required. The steam power required is about ten horse to every hundred bushels' capacity.

We will sell the apparatus at the cost of construction and charge a royalty for its operation; or will retain ownership and charge an increased royalty.

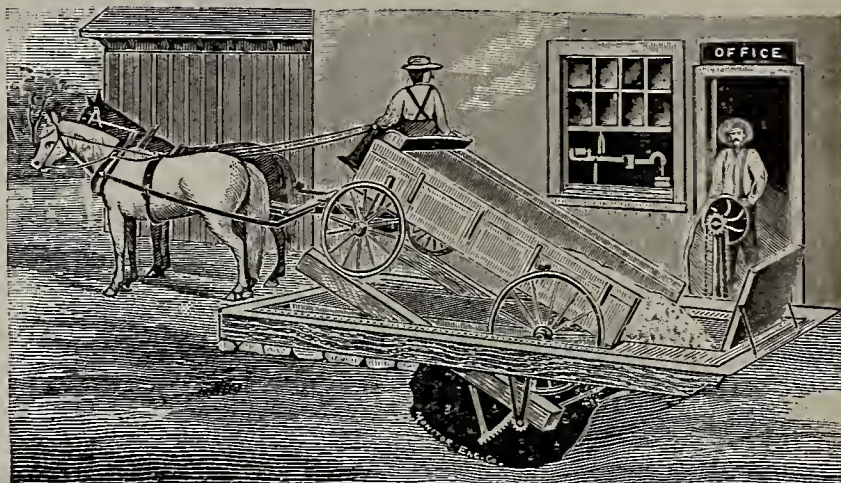
Every country elevator should be equipped with one of these driers so that grain may be sent to market in safe and salable condition.

For terms and further information write

PAINE-ELLIS GRAIN DRIER COMPANY,

28 Chamber of Commerce, Milwaukee, Wis.

Gold Dollars



At FIFTY CENTS apiece are CHEAP, but they do not represent a better investment than we offer the "elevator and grain trade" in our

Controllable Wagon Dump.

WINCHESTER, ILL., February 4, 1896.

MESSRS. SAVAGE & LOVE CO., Rockford, Ill.

GENTLEMEN:—Your favor of the 28th ult. received and noted. Last July I put one of your Controllable Wagon Dumps in a Fairbanks, Morse & Co.'s 22-ft. scale, and it has given me entire satisfaction in every respect. In this locality the bulk of grain is as yet handled in sacks, and by tipping the Dump about one-half it makes a nice slant, making it very easy to pull the sacks to back end of wagon, where strings are cut and grain runs out into bin below. Every farmer, without exception, speaks in glowing terms of the merits of this Dump. In unloading loose grain from wagon there is no dump that will equal yours in being easily handled and always under control of operator. No searing horses, no dropping of wagon and no noise. I consider a grain elevator incomplete without the Savage & Love Controllable Wagon Dumps.

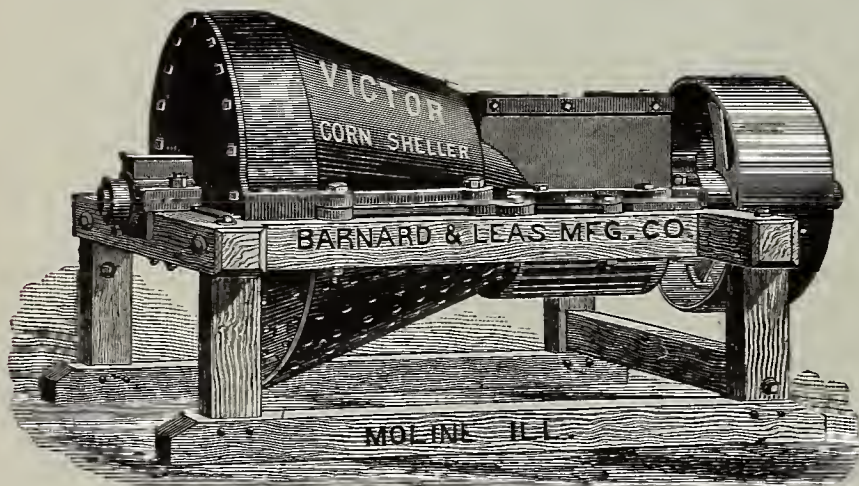
Yours truly,
M. C. WOODWORTH.

MANUFACTURED ONLY BY

THE SAVAGE & LOVE CO., Rockford, Ill.

FAIRBANKS, MORSE & CO., St. Paul, Minn., Northwestern Agents.

CORN, CORN, CORN.



Barnard's New Horizontal Adjustable Warehouse Scourer

IS THE BEST SCOURER IN USE.

Of Large Capacity. It is also the Best Oat Clipper in Use.

Write for further information to

BARNARD & LEAS MFG. CO., MOLINE, ILL.

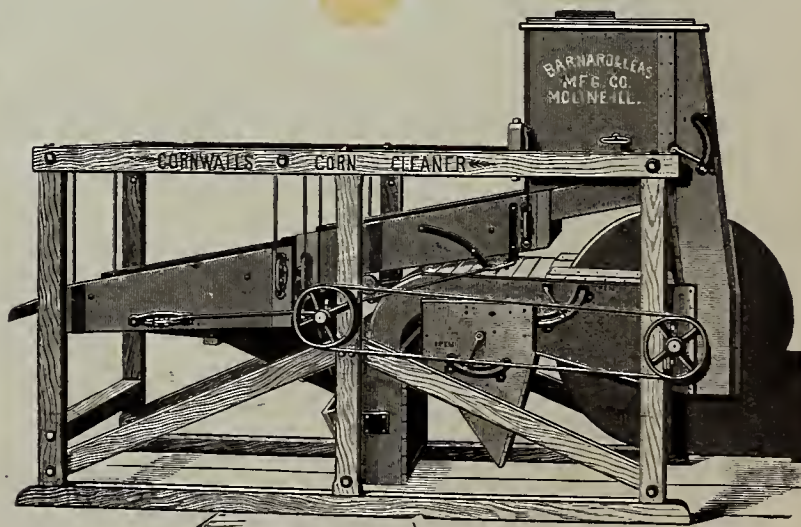
The best outfit for shelling it is the

VICTOR SHELLER,

And the best cleaner the

CORNWALL CORN CLEANER.

We guarantee them to clean the corn for market cleaner than any other outfit on earth.



No. 1 NORTHERN SPRING

AND

No. 2 RED WINTER

**WHEAT
FOR SALE**

**F. O. B. CARS: CHICAGO, NEW YORK, BOSTON,
PHILADELPHIA, BALTIMORE, DULUTH
AND MINNEAPOLIS.**

**CHOICE CONDITION
QUALITY AND GRADE GUARANTEED**

GEORGE B. FRENCH

**GRAIN MERCHANT
35, BOARD OF TRADE**

CHICAGO, ILL.

RITER-CONLEY COMPANY,

MANUFACTURERS, ENGINEERS, CONTRACTORS.

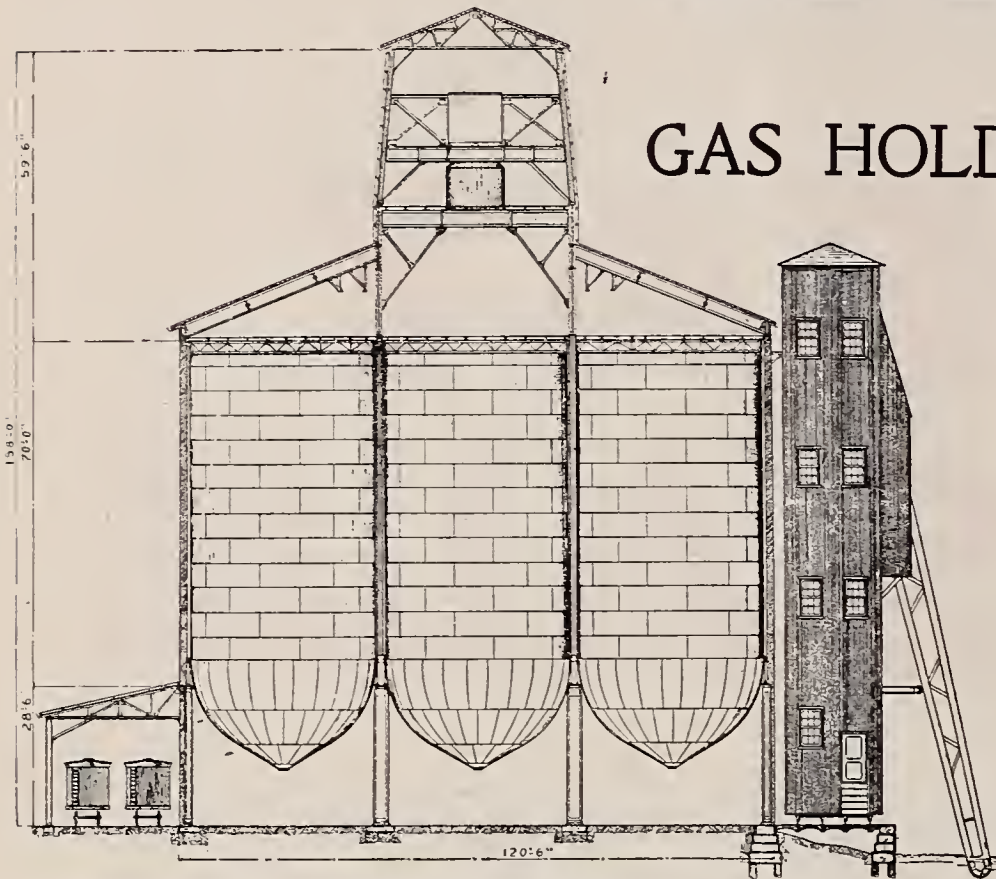
GRAIN ELEVATORS OF STEEL,

ALSO

GAS HOLDERS WITH STEEL TANKS,

WATER AND OIL TANKS,
STEEL BUILDINGS, STEEL STACKS AND
STEEL CONSTRUCTION OF EVERY DESCRIPTION,

Designed, Furnished and Erected
In All Parts of the World.



Cross section of Great Northern Elevator furnished by us at Buffalo, N. Y. Three million bushels' capacity. Steel throughout.

General Office, Water Street, Pittsburg.
Plate, Tank and Boiler Works, First, Second and Third Aves
Structural Works, Preble Avenue, Allegheny City, Pa.
New York Office, 39 and 41 Cortlandt Street.
Long-Distance Telephone Connections.



The Improved Eureka Oat Clipper



The best and strongest constructed Oat Clipper on the market. In offering this machine we know we have the latest and finest clipper, doing more and better work, than any other clipper on the market. We have adopted all the latest and most improved features for clipping oats. As a clipper the "Eureka" cannot be equaled.

The Eureka Warehouse and Elevator Separator,

The only practical and modern Elevator Separator on the market for handling grain. Has largest capacity. Will do better work than any other separator.

The Eureka Improved Double Receiving Separator.

This machine cannot be equaled by any other separator on the market in regard to capacity and for good work. We build our separators varying in capacity from 100 bushels per hour to 4,000 per hour.

AN IMPORTANT POINT.—We wish to state our machines are always first-class and no pains are spared in the construction of them to keep them in their place, namely: "The highest excellence."

FOR PRICES AND INFORMATION WRITE



THE S. HOWES COMPANY,
EUREKA WORKS.

SILVER CREEK, N. Y.

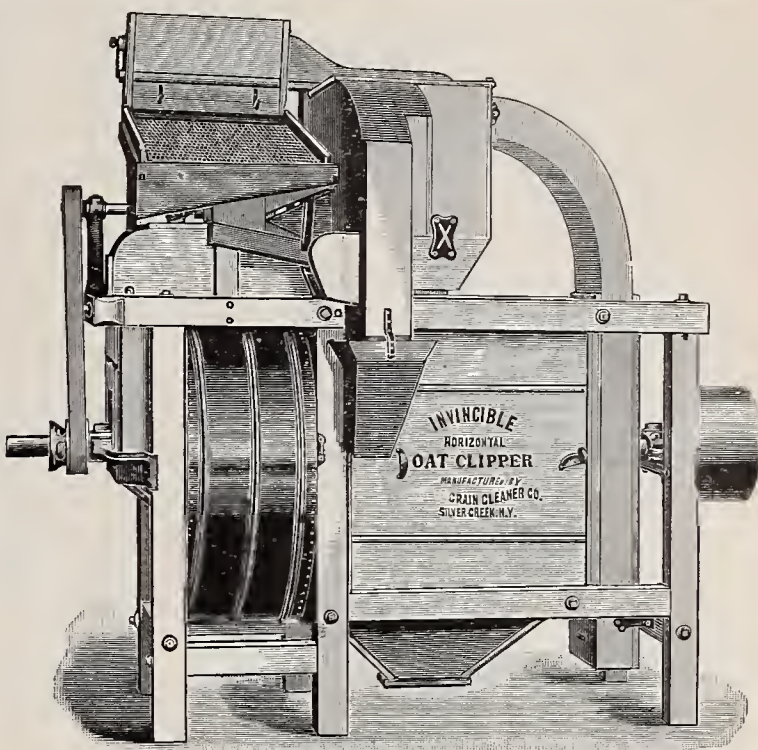


The Invincible Oat Clipper

It is the strongest and best constructed machine on the market. Will do more and better work with the least waste than any other. It contains many important features not found in any other clipper. It has been adopted by some of the most progressive handlers of oats and is pronounced by them superior to any other machine they have ever used.

By our PATENTED PROCESS of introducing air to the cylinder we remove instantly all loosened impurities and there is no chance for the dirt and stuff to lodge and choke.

If interested, we shall be pleased to supply you with a list of users. If you adopt the INVINCIBLE Oat Clipper you will have no trouble. WE POSITIVELY GUARANTEE IT THE BEST MADE and that you will get the best results from its use.

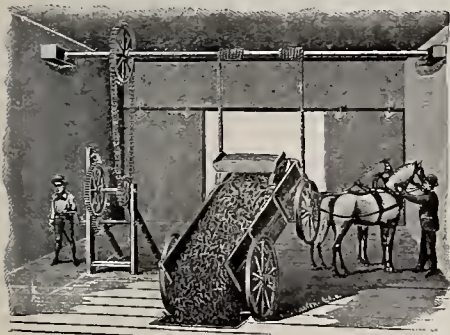


Invincible Grain Cleaner Co., INVINCIBLE WORKS, SILVER CREEK, N. Y.

Remember that we make Separators, the best in the market.

James L. Wheeler, Agent, Gore's Hotel, Chicago, Ill.

SMITH'S Automatic Warehouse and Elevator Machinery.

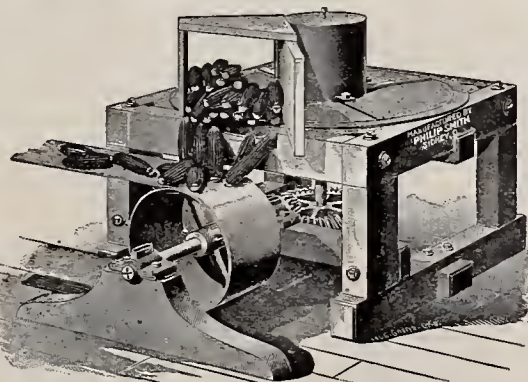


The Marquis Patent Ear Corn Elevator and Sheller Feeder.

Feeder will feed corn from the dump to the elevator or sheller with or without drag belt. Will feed 100 to 1,500 bushels per hour without any attention. Can be regulated to the capacity of the sheller or elevator while in operation. Can be made to feed either sheller or elevator by changing reverse board. It is made of iron and is very durable. It will last a lifetime. Can be applied to dump now in use at very little expense. We have over 5,000 of these machines in use that are giving universal satisfaction. Prices furnished on application.

I have given the building of Warehouse and Elevator Machinery my special attention for the past thirty years and claim to furnish the most complete, convenient and labor saving machinery that can be constructed, and will furnish plans and specifications on application for a complete automatic warehouse.

The accompanying cut is an exact representation of my Latest Improved Overhead Dump, which can be operated with ease, safety and speed, and we think that you will find that this dump embodies all the features required, without an objectionable point, and is within the reach of all grain men. This dump can be placed on a level floor, and is so constructed by a double gear that it can be operated by a boy.



Agents Wanted to Sell Our Full Line of Corn and Elevator Machinery.

PHILIP SMITH,
SIDNEY, OHIO.

INSURANCE

ON GRAIN ELEVATORS
AND CONTENTS

Is furnished at cost by the
MILLERS' NATIONAL INSURANCE CO.,
of Chicago.

It is a Mutual Company which insures more mills and grain elevators than any other company in the United States.

It has been in business 22 years and its average annual cost for insurance to mutual policy-holders has been about one-half of the board rates of stock companies.

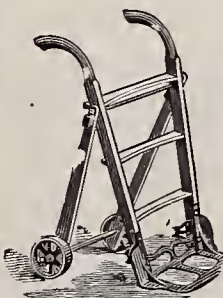
Its cash assets, January 1st, amounted to \$622,367; net cash surplus \$444,968.

The same conservative management which has directed the Company's affairs all through its prosperous existence will be continued.

Before placing your insurance, write to the Company at No. 205 La Salle Street, Chicago, for a copy of the circular and statement, which fully explains the Company's method of insuring your class of property on the mutual plan. If your risk is up to its required standard you cannot afford to insure in any other company.

W. L. BARNUM, Secy.

Trucks and Sack Holders.



Improved Trucks

Combination Truck and Step-Ladder, and Single Trucks, Sack Holders and Stand.

Best Boiler Compound recipe, the right to manufacture and use, with instructions. Price..... \$1.00

Combination Truck and Step-Ladder and Single Truck for..\$3.00

Prices for larger number given. Write for prices and circulars. Circulars free.

PEERLESS MFG. CO., Springfield, Ohio.

A GRAIN SPOUT

That will load cars without shoveling. It is worth its weight in gold. It will save you in labor all it costs in less than a month.



Send for Prices to

H. SANDMEYER & CO.,

PEORIA, ILL.

Dust Protector.

The "Perfection" has an improved Automatic Valve, which compels perfect protection and ventilation. Thousands in use.

Nickel plated protector, postpaid, \$1. Cir. free.

H. S. COVER,
SOUTH BEND, IND

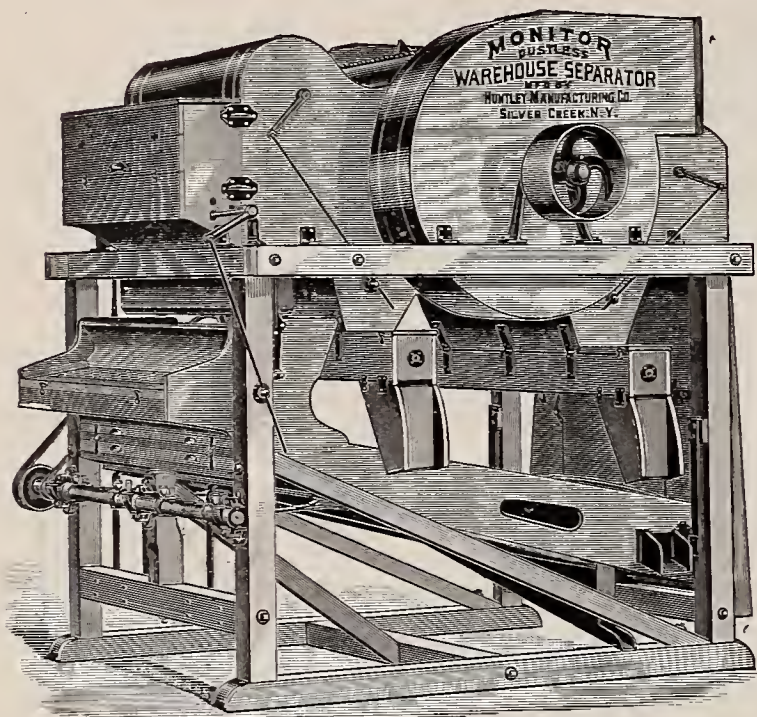


Patented Dec. 7, 1897.

STANDARD THE WORLD OVER.

Monitor Grain Cleaners, Monitor Oat Clippers.

THERE ARE MORE MONITOR MACHINES IN USE, IN THE LEADING MODERN CLEANING ELEVATORS, THAN ALL OTHER MAKES COMBINED.

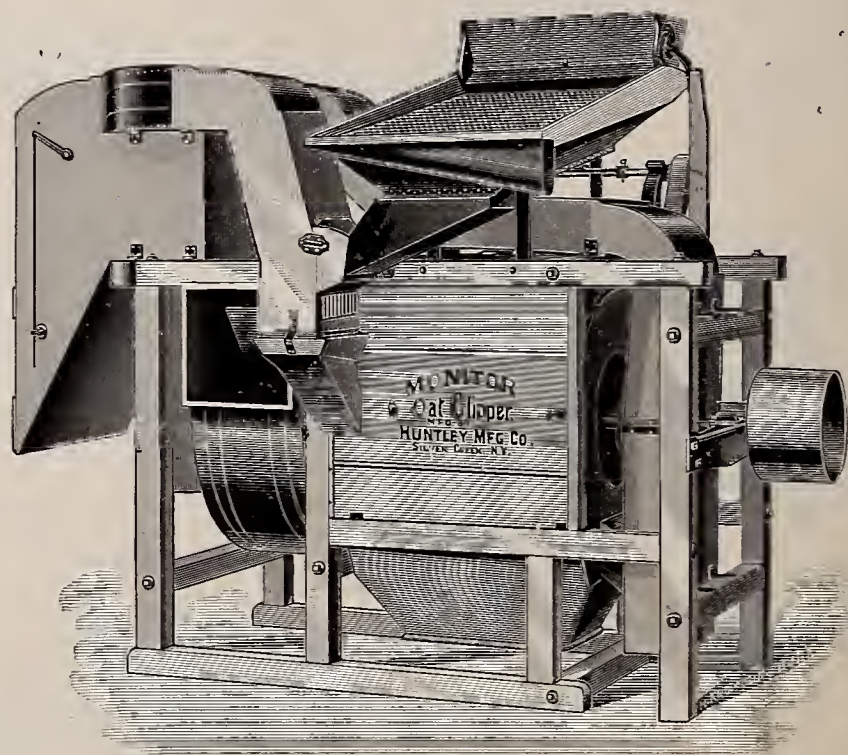


During the last six years all of the leading elevators built in the United States, with but two exceptions, adopted the "Monitor."

COMMENT IS UNNECESSARY.

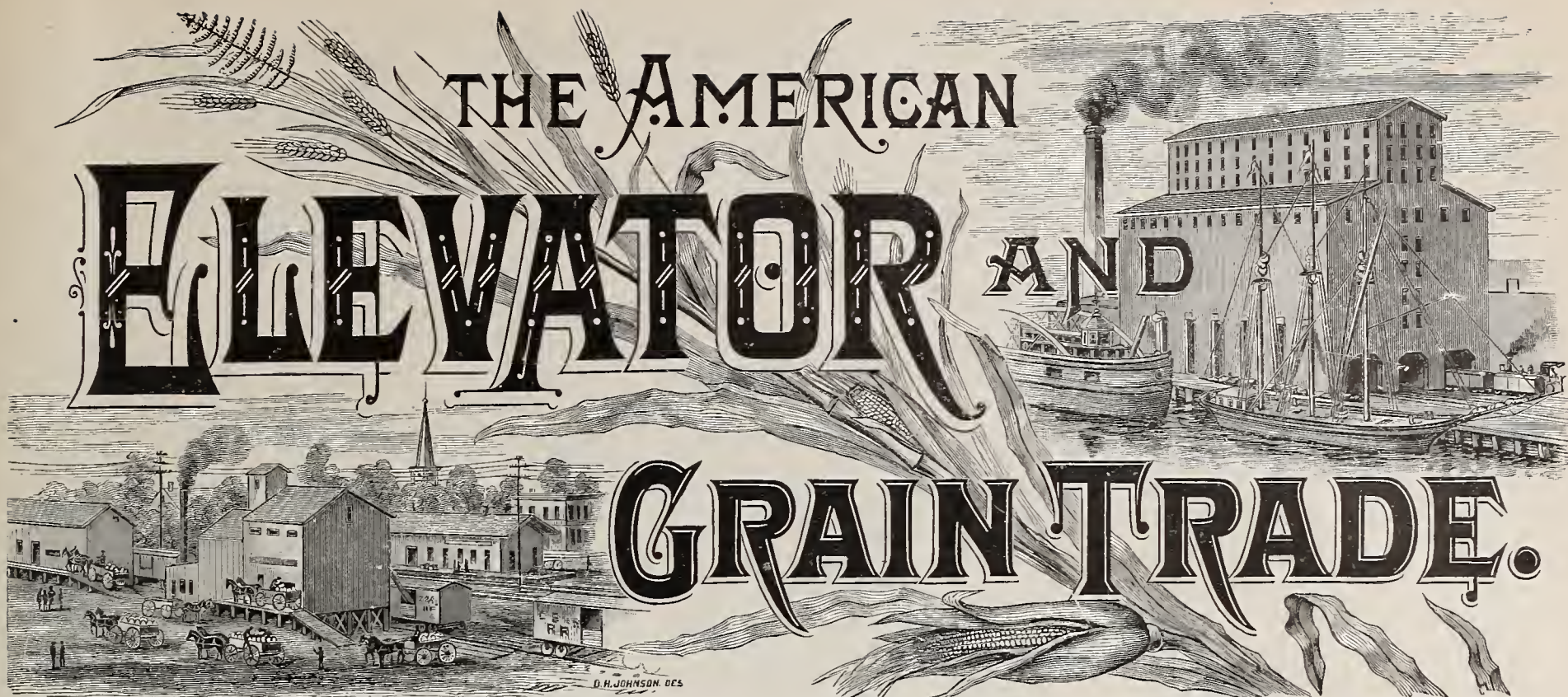
THE MONITOR OAT CLIPPERS have taken their proper place—at the head.

The best constructed clipper made. More capacity and better work than any other. HIGH GRADE IN EVERY RESPECT.



HUNTLEY MFG. CO.

Silver Creek, N. Y.



A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
MITCHELL BROS. COMPANY,
(INCORPORATED.)

VOL. XVI.

CHICAGO, ILLINOIS, MARCH 15, 1898.

No. 9.

{ ONE DOLLAR PER ANNUM
SINGLE COPY, TEN CENTS.

NEW ELEVATOR AT CLEVELAND, OHIO.

Cleveland has long had a good harbor, large in and out tonnage, and superior railroad facilities, but its dealers have never made a very determined effort to build up the city's grain trade. Last year a new modern elevator of 500,000 bushels' capacity was erected and placed in operation. Since then the city's grain trade has grown considerable. Country shippers have complained some of the grading in that market, but the chief grain inspector has promised to change the rules, so it may be more satisfactory soon, and the trade will continue to increase.

The new elevator illustrated herewith, which is on the Cuyahoga River facing the Cincinnati slip, was built by John S. Metcalf & Co., elevator architects and builders of Chicago, for the Cleveland Elevator Co., and it is operated by the Cleveland Grain Co. The elevator is 80x178 feet, and 143 feet to the top of the cupola. The working story, which is on the water side of the house, is 80 x 80 feet, and 19 feet high. It is covered with corrugated iron siding, and has a roof of tar, felt and gravel. Four tracks of the Big Four run through this story.

The working story contains 4 Clark Power Shovels arranged so as to unload cars on any of the four tracks, 4 loading spouts fitted with Metcalf Bifurcated Loaders, and arranged to load cars on either of two tracks, and 2 car pullers so located that cars can be pulled on any track without interfering with work on the other tracks. There are two receiving sinks on each track, making eight in all. The house has four legs, with an elevating capacity of 10,000 bushels each, and each may be used for either shipping or receiving.

Immediately above the working story is the cleaner story, which is well equipped with cleaners and clippers, and all of the dust is drawn through iron air trunks to dust collectors over the engine room. One No. 8 Monitor Separator and two Invincible Oat Clippers are used. In this part of the

building are 37 bins supported by the first story posts.

The cupola is four stories in height. The first story, which is 25 feet high, contains four Mayo Distributing Spouts, which receive grain from four 1,200-bushel Fairbanks Hopper Scales on the floor above, and deliver it to the bins below, or belts

bins are two systems of 36-inch belt conveyors concentrated their entire length. Each has a self-propelling iron tripper, which will precipitate grain into any bin. These belts, which are driven from the line shaft in the cupola, can receive grain from any of the scale hoppers. Under the bins of the storage part are two systems of belt conveyors, concentrated the full length, which take grain from the bins and carry it to either leg.

On the front of the elevator, as is shown by the illustration, is a marine tower and slanting leg with guides. The leg has an elevating capacity of 10,000 bushels per hour. The tower is so arranged that the leg can be completely housed, and contains a power winch and machinery for handling the leg. The tower also contains a 1,200-bushel garner, over a 150-bushel iron scale hopper. This scale hopper in turn discharges into another garner, and the grain is then spouted to either of two legs and delivered to any bin in the house. On each side of the marine leg are two shipping bins, and each bin is supplied with a large cast-iron revolver, by which grain can be turned to the loading spouts. Each loading spout is supplied with a separate hoisting apparatus and winch on the dock.

The brick power house which is adjacent to the elevator is 46x57 feet and 21 feet high. All the dust collectors on the boiler roof discharge into the furnace. It contains three 72-inch by 16-foot horizontal boilers, and a 22x48 inch condensing engine. Also a fire pump of 500 gallons per minute capacity, and a feed pump. The fire pump is connected with a complete system of standpipes which

have hose connections coiled on reels throughout the house. The hose connections on each floor are supplied with 50 feet of cotton, rubber lined hose with brass nozzles.

The smokestack is made of steel plate 12 feet in diameter at the base and 142 feet high. It is brick lined, and the flue opening is 5 feet in diameter. The machinery was supplied by the Webster Mfg. Co. of Chicago.

This is the first cleaning house erected in some



NEW ELEVATOR AT CLEVELAND, OHIO.

which convey it to the storage part of the building. On the third floor are four 1,400-bushel garner, also the line shaft for driving the elevator heads, which are on the top floor. All the drives in the building are rope drives running over iron sheaves. Each elevator leg is driven independently from the line shaft, and each drive is supplied with friction clutch.

In the storage part of the elevator are 28 bins 14x20 feet, and 70 feet deep. Over the top of these

time which has not been equipped with a complete system of pneumatic sweeps.

THE BROWN GAS AND GASOLINE ENGINE.

To the uninitiated the difference in styles of construction employed in gas and gasoline engines may appear very insignificant, but to the experienced user they are full of suggestions as to the machine's utility, durability, etc. In this class of machines, simplicity includes as many desirable points, perhaps, as in any line that could be mentioned.

Simplicity is the first claim made for the Brown Gas and Gasoline Engine by its manufacturer, the Columbus Machine Co. of Columbus, Ohio. It has comparatively few working parts, as reference to the accompanying cut will show, to wear out or add noise to its operation, yet nothing is lacking for producing the highest working efficiency, closest regulation of speed and perfect control over its every part.

This engine is operated by the well-known explosive principle, that is, a mixture of gas and air

TACKING SHIPPER'S WEIGHTS ON CARS.

N. B. Hieatt, president of the Kansas Grain Dealers' Association, recently issued a circular letter to the members of that organization in which he called attention to the advisability of marking the weight of grain upon a card and tacking it to the door of the car. He quoted the following from a letter written to him by F. M. Baker, of the Greenleaf-Baker Grain Co., of Atchison, Kans.:

"I notice that you tack up a large card on every car you ship, showing the weights of it. I wish, at the meetings of your Association, you would advocate all your members doing this; it can be seen at once, when the cars are being weighed, whether or not there is any mistake in the weights. If you make a mistake, and your weight is under the amount that is actually in the car, I think anybody you sell to would give you the correct weight; I know you would get it here. Then, when we have your weight, when the car is unloaded, if there is any mistake like that, we can discover it, or we can investigate and see what is wrong. We often

or receiving elevators in Kansas. I think the system of having an official weighmaster, under the supervision of the chief state inspector, should be enforced. To accomplish this, we must, as individuals and as an organization, give our chief inspector all the aid and support at our command. I would advise writing him, whether you are in favor or not of having your grain weighed at your own expense, by a disinterested and capable weighmaster, appointed by the governor, and under bond. Excepting a few points in Kansas, wherever we ship our grain we are obliged to pay for the weighing, which is generally more than it would cost if weighed under the supervision of the state inspector. I would recommend having state weighmasters, by all means.

"Second. I think the members of our Association should confine their sales and consignments to members of our organization (conditions being equal), thus inducing receivers and commission men to recognize the fact that we are governed by a spirit of justice only to all concerned. Let us adopt the sentiment of Abraham Lincoln: 'A government of the people, by the people, and for the people.' In doing this we will have met our obligation to the Association, which is striving solely for the promotion of the common interests of all legitimate grain dealers."

Minnesota has a law which provides that "It shall be the duty of any shipper of grain to terminal points within this state to fasten upon the inside of the door of every car so shipped by him a card upon which shall be given the number and initials of such car, the date of shipment, and the actual weight of the grain in such car as ascertained by such shipper.

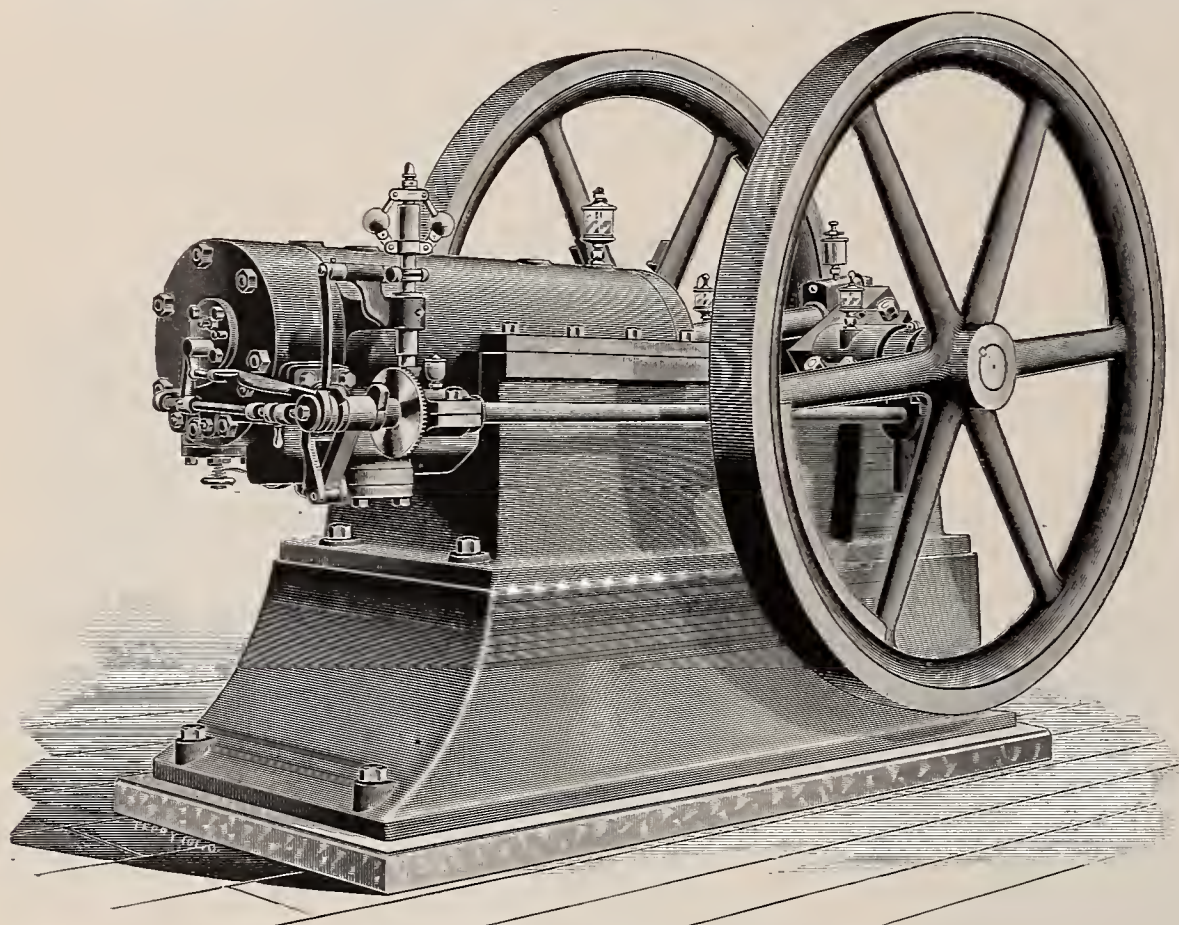
"In case of failure upon the part of any shipper to comply with the provisions of this section, the weight of the grain in such car, as ascertained and determined by the state weighmaster, at the terminal point, shall be taken as prima facie evidence of the amount of grain in such car contained."

In calling the attention of grain shippers to the law the Minnesota Warehouse Commissioners said: "The law does not contemplate that the shipper's name nor the place of shipment should be put on this card, and it is our expressed desire that name, grade and place of shipment be omitted. In placing the card upon the door, care should be taken to place it near the edge of the door, that it may not be hidden from sight when the door is opened by the grain inspector."

SHORTAGES AND OVERRUNS IN GRAIN CARGOES.

The annual report of the official grain weighmaster of the Buffalo Merchants' Exchange, Junius S. Smith, has been issued in pamphlet form. It gives the work of all elevators in Buffalo and others on the lakes with which the fleet has traded. The weighmaster has had charge of the weighing of one-half of the 200,000,000 bushels of grain received in Buffalo during the past season, and reports an average shortage of only twelve wheat pounds per 1,000 bushels. There is scarcely any shortage on wheat, only two pounds to the 1,000 bushels. This is largely on account of the overruns from Fort William, which amount to 25 pounds to the 1,000. The appliances at that port are crude and so acknowledged, and if there is a bad shortage reported against the port something is done about it, says the Marine Record, instead of employing the time-honored method of calling the receiving elevator men robbers. Green Bay also shows an overage, and all the rest of the eleven ports sending grain to Buffalo show a shortage—Manitowoc, Wis., leading with 43 pounds, and Milwaukee being next with 27 pounds. Chicago is short 13 pounds. The heaviest shortages from any individual elevator on full cargoes were from the Alton in Chicago, 84 pounds.

An interesting program is being prepared for the spring meeting of the Illinois Grain Dealers' Association, which will be held at Chicago, March 17 and 18; headquarters at the Saratoga Hotel, 159 Dearborn Street.



THE BROWN GAS AND GASOLINE ENGINE.

in proper proportion is compressed in one end of the cylinder by the piston, and is ignited by an electric spark, the resulting explosion giving the piston its out stroke, when the burnt gases are allowed to escape, and a fresh air supply admitted with the proper amount of gas. The compression of the same is effected by the instroke of the piston, and the operation repeated. When the speed of the governor rises above normal it operates upon the exhaust valve to prevent compression, and also upon the igniter, preventing contact of the electrodes, until the proper speed is restored, thus saving the electrodes and batteries from unnecessary wear.

A gas engine, however perfect it may be in other respects, is as good as useless without a perfect igniter. No one is more impressed with this fact than the makers of The Brown, and they claim that their specially designed electric igniter performs its vital duty in an admirable manner.

These engines are adapted to use either gas or gasoline, and can be changed from one to the other without stopping. The engine can be changed in five minutes to run in an opposite direction, which is often a great convenience in placing. All engines are given a thorough factory test, using both gas and gasoline, and the horse power determined under which they are rated, sold and guaranteed.

The directors of the Grain Dealers' National Association will meet in Chicago March 16.

get complaints about weights a month or six weeks after the car has gone forward, when it is very difficult to find out what is wrong. I wish to the Lord that every car of grain that is shipped us was weighed accurately, and the weights pasted up on the car. The most disagreeable thing about the grain business is this weighing; if I didn't have to weigh people's corn that I buy I would be reasonably happy; but if we pass the corn and give them destination weights, all of our customers kick; and if we weigh it here, part of them kick on our weights.

"But your Association is accomplishing a good deal; and if the members will only hold together and continue to have meetings and talk over their grievances, etc., they will find out they will correct a great many of them; and they will further find that they have a good many fancied grievances. I have been in the grain business at both ends of the line, and I know how it runs."

Mr. Hieatt writes that "this is the opinion of not only one firm, but of many, who have expressed to me the advisability of tacking on the doors of each car shipped a card stating what kind of grain is in the car, the exact weight of the same, the kind of scales weighed on, also number of drafts.

"While writing, I will take the liberty to make a few suggestions, which, if acted upon, will benefit every member of the Association. First of great importance, is the matter of weights at terminal

THE ELEVATOR OF LESAGE, LOTTINVILLE & SON, MARTINTON, ILL.

At the little town of Martinton, Iroquois County, Ill., is located the grain handling establishment of Messrs. Lesage, Lottinville & Son. While there is nothing of special importance that marks it off from many other houses, it is typical of the better class of interior elevators in its arrangements, and would certainly serve as an excellent model for a country house of medium size.

The elevator is 43 feet high to the eaves, and 63 feet over all. The house proper is 24 feet wide by 58 feet long. At one end is the engine room, which is 12 by 24 feet, and contains a 20-horse power gasoline engine. At the side is the driveway, extending the whole length of the building and having three dumps. There are twelve bins in the house, ten of which are 10 by 12 feet, and the other two 8 by 12 feet. The storage capacity is 30,000 bushels.

On the side of the driveway opposite the elevator is the implement house, which is 16 feet wide, and extends the entire length of the driveway. This is for the storage of carriages, wagons and farm implements, the sale of which forms a part of the business of the firm. Besides dealing in grain and implements the firm also handles lumber, lime, cement and coal.

One of the features of the establishment that is exceptional is the neat office building. It is 16 by 28 feet, and as the illustration shows, has porches and a pleasant, comfortable look. It might well be imitated by mills and elevators generally. A neat and convenient as well as attractive office room adds not a little to the pleasure of doing business.

THE SINGLE ACTING GAS ENGINE.

The average elevator man's knowledge of gas engine construction or operation is not very extensive, hence he often has much trouble with his engine when there is no occasion for it. If he would study its construction and the principle of operation he would be in a position to overcome readily many small difficulties which now appal him. The present

short, compact machine, it necessitates a heavier construction of piston, and, what is much more serious, it forces the wear of the "angle thrust" of the connecting rod onto the bottom of the cylinder.

"In small engines, when well lubricated, this is not a serious matter, because the heats are not so great as to impair the lubrication, and the weights and pressures do not exceed the cylinder's wear-resisting qualities; but in large engines the conditions are different, the power of the impulse and angle thrust, and the necessary weight in the piston and connecting rod, increasing very much more rapidly in proportion than the wearing surface on



A MODEL ELEVATOR OFFICE.

the bottom of the cylinder, together with which is the increasing difficulty of proper lubrication in the greater volume of heat. All these causes, working together, seem to fix the practical limit of the single acting engine at about 16 inches diameter of cylinder, corresponding to about 75 indicated horse power. Larger engines of this type have been built in Europe, but they have not, so far as is known, become commercial factors.

"The regulation of single acting engines for electrical work presents much difficulty. The maximum of explosions being one in four strokes, on anything less than full load frequently eight or even twelve strokes intervene between explosions. This irregularity has, to some extent, been overcome by the



ELEVATOR OF LESAGE, LOTTINVILLE & SON, MARTINTON, ILL.

development in gas engine design is divided sharply into two general classes, single-acting and double acting. The former is much older, and still much more in use; the latter is a comparatively recent development, and has aimed more to occupy the field of higher powers than has its single acting competitor.

E. F. Lloyd, in a recent paper on the gas engine, said: "It is only within the last three years that the double acting type has been seen in America. Originating in England, it has been in successful use for about ten years. In all well-known single acting engines, as now built, the piston is its own crosshead; that is, the connecting rod is pivoted directly into it, and there is no piston rod. While this permits a

use of heavy flywheels and high speed in the engine, supplemented generally with a countershaft carrying a solid or a spring balance wheel and the belting done from that to the dynamo.

"In this manner, through the inertia of the wheels and the elasticity of the belts, a fair degree of steadiness has been obtained, but necessarily at an expense of power and floor space. The difficulties in the way of sensitive regulation of the engines are twofold: First, the long interval between impulses; second, the inherent irregularities in mechanical governors themselves, due to inertia, friction, uneven lubrication, wear and actual work frequently to be performed."

UNIFORM WEIGHTS AND MEASURES.

Some day this country will get a system of weights and measures, and a great saving of gray matter will be effected. Many errors would be prevented if we would but discard the nondescript collection of weights and measures now used. In Indiana 68 pounds of corn constitutes a bushel, elsewhere 70 pounds is required to make a bushel. The legal weight of a bushel of coarse salt in Pennsylvania is 80 pounds, in Illinois and Indiana 50 pounds.

In an article on this subject the Sentinel of Indianapolis said: All weights and measures are merely matters of convenience. There is no natural reason for their being as they are. They are purely artificial, and are adopted arbitrarily by general consent, as expressed in governmental regulation. The strange feature about them is that people have not more thoroughly realized the increase of convenience that would arise from uniformity in them, not only between different nations, but also between different parts of the same nation. Obviously it would be much simpler if these measures were the same everywhere. The most strenuous efforts have been made to secure uniformity, and thus far with only limited success. For a century intelligent men have been laboring to secure this result, and yet the steps toward it have been very slow. John Quincy Adams took up the matter eighty years ago and made it so plain that Americans at least should have had no hesitancy thereafter in favoring uniformity, and yet only a year or two ago Congress became frightened after adopting a law making the French metric system compulsory and reconsidered its action. That system is now quite largely adopted throughout the civilized world, and is almost exclusively used for scientific work in this country. It can be only a question of time until it is made the legal system throughout the United States, and the sooner it comes the better. It would save thousands of dollars in the public schools by doing away with the teaching of the antiquated and absurd tables of weights and measures which the children have to learn, and would also save thousands of dollars by simplifying all business calculations. The world moves very slowly in the direction of beneficial things, and often very rapidly in the direction of injurious ones.

ERRORS IN ELEVATOR ACCOUNTS.

Elevator bookkeepers or anyone who has anything to do with accounts in grain elevators where the weighing is done on scales whose beams have but one notch for every two pounds will profit by familiarizing themselves with the following method of detecting transposition of figures in records of weights. Transpositions are of frequent occurrence and often cause much trouble.

It has been discovered that by using 4 as a common multiplier for corn and rye, 2 for barley, and 8 for oats, the transposition of figures used to indicate the pound and those used to indicate any number of bushels up to and including 99 can be detected. Where grain is weighed on large scales, the beams of which are graduated to weigh no amount less than 2 pounds, the weight will always be an even number.

This method of detecting transpositions will be of service only to those who keep a record of the pounds as well as the bushels. More errors can be traced to transposition of figures than any other source. The first figure of a number is generally recorded correctly, but the following figures are often transposed, and 685:04 written for 658:04. Such an error will throw the books out of balance, and unless a balance is forced someone will have to spend several days hunting for the error, that is, if the usual way of detecting them is followed.

By following the method here outlined it will not be necessary to refer to the original record to find errors of this kind. By using the common multipliers to multiply the first figure on the right, indicating bushels, will give a sum, the last figure of which is the same as the first figure on the right in the pound column. Take, for instance, a record which is 9 bushels out of the way, and one of the numbers in

the column of figures is 887:04 oats. The multiplier used in detecting transpositions of figures in the weight of oats is 8. By multiplying 7, the first figure on the right in the bushels column, by 8 we get 56. The last figure of the product, 6, is not the figure on the right in the pound column, so we take the second figure in the bushels column, 8, as a multiplicand, and get 64 as a product. The first figure on the right of the product is the same as the first figure on the right in the pound column, hence the figures in the bushel column must have been transposed. The transposition of figures in the pound column can be detected the same way.

A. B. COLTON.

Many of our readers will recognize in the accompanying portrait a business and personal friend. For the past sixteen years he has been connected with the machinery side of the grain handling busi-



A. B. COLTON.

ness, and in that time has become well known all over the central and western states.

Albin B. Colton was born in Clark County, Illinois, in 1859. His early life was passed on a farm near Galesburg. In 1876 he entered the Illinois State University at Champaign, and after leaving college entered a machine shop to learn the trade. Promotion came rapidly, and he was soon secretary of a company employing fifty men. In 1882 he became interested in the Frost Mfg. Co. of Galesburg as its treasurer, which position he held until 1890, when he became sales agent of the Racine Hardware Mfg. Co. of Racine, Wis. For the past two years Mr. Colton has held the position of manager of the Kansas City branch of the Great Western Mfg. Co. of Leavenworth.

Mr. Colton is imbued with the spirit of progress. On his removal to Kansas City he at once became identified with the business life of the city and a factor in it. He is a worker in the highest sense of the term, whether in business, social or political affairs. Such men are an acquisition to a community; they pitch its key; and it is a tone to which progress responds. He is vice-chairman of the Transportation Committee of the Commercial Club, was

elected first vice-president of the Kansas City Implement, Vehicle and Hardware Club, and is actively interested in the Kansas City Credit Men's Association. And, as stated above, he has friends everywhere, as not the least result by any means of his eighteen years' business experience.

MEETINGS OF MARYLAND DEALERS.

The regular grain dealers of Maryland seem to be thoroughly aroused by the many impositions heaped upon them, and are determined to obtain relief by organization if possible. They held a meeting in Baltimore last month for the purpose of organizing a state association. A. D. Birely of Frederick County was made temporary chairman, and E. E. Reindollar temporary secretary.

After some discussion Messrs. J. E. Hargett, J. Fenton Thomas and Joseph Engler were appointed

Among those present at the meeting were:

Frederick County—Messrs. John E. W. Hargett, G. T. Kohlenberg, E. M. Mercer, Brook J. Jamison, George W. Miller, W. H. Turner, J. Fenton Thomas.

Carroll County—W. H. D. Warfield, Charles C. Gorsuch, J. M. De Lasmutt, Joseph E. Engler, T. H. Ecrode, Willis Zumbrum, L. F. Miller, J. Wright Barrick, Charles A. Ruckles, E. E. Reindollar, E. O. Cash, P. M. Weist, D. E. Buckley.

Baltimore County—J. F. Armacost and P. G. Zonck.

Cecil County—Charles A. Benjamin.

Washington County—E. P. Steffy, F. N. Darby, B. F. Charles, Isaac E. Emerich.

Charles L. Crum of Winchester, Va.

The following morning the Committee on Weights called upon the officers of the Chamber of Commerce and asked that a weighman be appointed by the Chamber to inspect or check the weighing in the elevators. The terminal agent of the B. & O. R. R. wrote a letter to the officers, in which he claimed the shortages were due to the inaccuracy of the shippers scales, not the scales in the terminal elevators, as the weights there were correct.

It seems that the farmers of the state learned of the reported adoption of a resolution by the grain dealers promising not to patronize commission men who buy direct from farmers, so when the Farmers' Alliance met, it adopted a resolution denouncing the reported action of the grain dealers. In discussing this matter E. E. Reindollar, the secretary of the Grain Dealers' Association said: "The farmer, whose views were published in The American on Friday, calls our action a declaration of war against the commission merchant and the farmers, and an unjust combination thrust at the freedom of trade, and concludes by predicting that such a combination would almost annihilate the business of all parties concerned.

"As a member of the Grain Association, I want to say that the resolution referred to was not considered or passed at the meeting held at the Entaw House, and does not appear on the minutes of the meeting in any form. I will admit that the matter was brought up by one of the members, but was not in proper form, consequently, was not debatable, and, as yet, the Association has not put itself on record as opposing the farmer in any way; neither has it dictated to the commission men what they must do, that the friendly relations existing between shipper and receiver may continue.

"I do not say that the resolution referred to may not come before us again. The probabilities are that it will, and, if those who are not in the grain business knew what millers and grain men have to contend with, they would see and recognize the necessity of an association which shall have for its objects the advancement and protection of the common interest of those regularly engaged in the grain business.

"Our association does not believe in oppression. It has never said, as a body, what a man must do, be he producer or receiver. It simply aims to care for and look after the welfare of its members, bring about a more friendly feeling between competitors and urge the necessity of doing business on business principles. We believe in protection, and this is the sole object of the association. It has no other end in view.

"We are not antagonistic to the farmer, nor are we endeavoring to curtail the farmer's actual independence.

"While the farmer referred to says it may be all right for any set of men to legitimately combine to accomplish certain ends, we say it is right, so long as these associations do not interfere with man's liberty and do not conflict with the laws of the land. Neither are they unwarranted or un-American.

"Every city and town of any importance has its board of trade. We have the Bankers' Association, insurance companies have a schedule of rates, representatives of the different railroads meet and fix prices for transportation of anything that may be offered, express and telegraph companies do the same—in short, every branch of trade of any importance has some system or method of doing business. You may call it an understanding, if you

to draw up a constitution and by-laws, to be reported at a subsequent meeting.

The object of the organization was explained fully in addresses delivered by Messrs. Hargett, Thomas, Emory, Kirwan and others. It is reported that the members hope by the aid of a strong organization to regulate the prices and conditions of dealing in a manner that will be beneficial to all parties.

The following resolution, proposed by Mr. Hargett, was unanimously adopted: "That we promise to ship no grain to any Baltimore commission merchant who buys from farmers, and that we pledge ourselves to ship only to those who purchase from regular dealers."

Mr. Fenton Thomas made an address, in the course of which he suggested that millers who did not come into the organization be boycotted by the dealers. He also condemned the practice of huckstering through the counties.

A committee, consisting of C. H. Gorsuch, J. E. W. Hargett and J. F. Thomas was appointed to wait upon the officers of the Chamber of Commerce and request the appointment of public weighers at the terminal elevators.

please. It is nothing more nor less than an organization brought about for what? Protection. If all the above, in connection with the numerous farmers' clubs we have East and West, are justifiable, are not we, as grain dealers, right in our efforts to organize a state association for the mutual benefit and advancement of the interests of regular grain dealers in every way possible?"

At the following meeting of the Grain Dealers' Associations the members were sharp enough to exclude the reporters of the daily papers, who invariably persist in getting reports of trade meetings mixed.

On March 2 another meeting was held for the adoption of a Constitution and By-Laws. The temporary officers were continued and the work of enlisting new members will be continued.

THE COMMERCE OF THE GREAT LAKES.

The aggregate tonnage of United States vessels which ply the oceans on either shore has long been so small as to be scoffed at by the seamen of other countries, and to be wondered at by the Americans who go abroad. With the vessels which ply the inland lakes it is quite the reverse, the marvelous growth of the carrying trade and the tonnage of the vessels have amazed even those identified with the trade and cognizant of every improvement. Cities have been built on the shores of the lakes and have flourished as a result of the advantages secured by water transportation, until to-day they are among the most important commercial centers of the land.

No doubt the position of the lakes permits the traffic to take its natural direction, but this natural advantage is not the only factor which is entitled to credit for the remarkable development of our lake commerce. The government has expended money in the deepening and widening of channels and harbors freely, and the ship owners have kept their vessels up-to-date in every part of their equipment. Money has been used lavishly to provide the best facilities for the rapid and economical handling of freight, and the growth of the business has kept pace with the improved facilities.

The most important work done by the government to facilitate navigation on the great lakes was the building of a canal around the rapids at Sault Ste. Marie, where the river has a fall of 18 feet in half a mile. The first ship canal around the rapids was built by the state of Michigan about 1855. It was

feet wide. It has a depth over the sills of 20 feet 3 inches. Last year the Canadian Government completed a canal around the rapids on the Canadian side, which is 900 feet long and 60 feet wide. It has the same depth over the sills as the new American canal. These locks are now so large that three large vessels can be locked through at the same time.

During the eight months of last year that the canals were open 17,249,418 tons of freight passed through the canals. The Canadian canal was not open the entire season, and the canal in United States territory was not able to accommodate the



VESSELS WAITING TO PASS THROUGH THE SAULT CANAL.

traffic at all times as is evidenced by our illustration, taken from the Scientific American, which shows a number of boats waiting for their turn to pass through the lock.

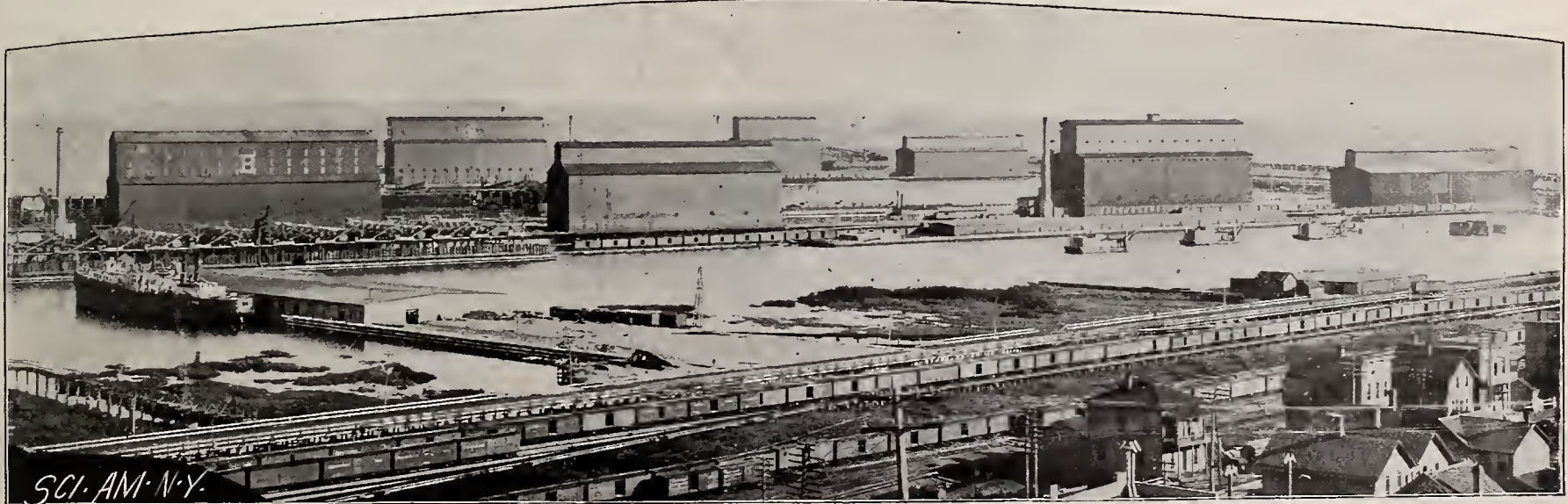
The most of the freight passing through the canal is confined to a few articles. The principal kinds carried through last year were iron ore, 7,909,250 tons; coal, 3,023,340 tons; wheat, 63,256,463 bushels; other cereals, 27,448,071 bushels; flour, 8,882,852 barrels; lumber, 684,986,000 B. M.; pig iron, 121,872 tons; copper, 116,873 tons; salt, 237,515 tons. While grain is not the largest item of freight carried, the amount shipped from Lake Superior ports is growing rapidly, and it is sure to remain one of the most important. The improvements being made in the elevator facilities of Fort William, Ont., will enable that port to contribute more grain to the aggregate grain tonnage of the canals. Port Arthur, Ashland, Washburn and Superior will continue to contribute their

TESTING LIGHT OATS BEFORE SEEDING.

If country grain dealers would discriminate against the poor oats brought to market by farmers and attempt to supply them with seed oats of superior quality, the energy expended would prove a profitable investment for them and bring about a marked improvement in the quality of oats they would handle the following season. The elevator men could by cleaning good oats thoroughly secure choice seed for the farmers and get far more for

the grain than if they had shipped it to a central market.

The oat crop last year of some sections was of very poor quality. The grain is exceedingly light and chaffy, and an examination will show that in many samples there is no kernel. In others the kernel is dry and shrunken and apparently lifeless. Owing to the nature of the crop farmers should be urged to use great care about their seed oats. Some are of the opinion that these dry, shrunken oats will not grow at all. Whether or not this idea is correct, it seems certain that in these light samples a considerable percentage of the grains will not germinate. This will necessitate sowing a much larger quantity per acre. Even where the grain will germinate, it may be lacking in vitality sufficient to make a strong and healthy growth. In order to guard against a failure of the next crop on account of bad seed, farmers should sow a little



GRAIN ELEVATORS AT DULUTH.

but 350 feet in length, but it stimulated trade to a remarkable degree. The demand for a larger and deeper canal became so strong that the Federal Government took charge of the canal at the Sault in 1881 and built a new one of what seemed at that time to be liberal dimensions. Its single lock was 515 feet in length, 60 feet wide at the gates, and 80 feet wide in the chamber, the depth over the sills being but 14 feet.

The opening of this canal gave renewed impetus to Lake Superior commerce, and it soon outgrew the capacity of the canal. In 1894 a third canal was built. The lock of its chamber is 800 feet long, 100

quota, and Duluth, which also has a number of elevators, as is shown by our illustration, can be depended upon for a large quantity annually.

The intense competition for the carrying trade of the lakes has been an influential factor in the improvement of vessels, channels and harbors, and the development of the business. It has reduced the cost of transportation to a figure which has attracted freight, made trading possible, and diverted much freight from other channels. For the ten years 1886 to 1896 the average price was .0135 per ton, per mile. For the three years 1893 to 1896, the average rate was .0099, or about a cent per ton per mile.

of the seed they propose to use in a box, in time to test its germinating quality before seeding time. If they had a sample of choice oats to plant with it, it would give a comparison as to the strength of the growth, as well as to the germinating quality of the poorer sample. Where these light oats are used for seed, they should be well cleaned and the quantity well reduced by putting them through the fanning mill to blow out the chaffy stuff.

What has become of the Northwestern Iowa Grain Dealers' Association, which was organized at Iowa Falls last year?

A NEW IMPROVED FRICTION CLUTCH.

The latest specialty which the Weller Mfg. Co. of Chicago, Ill., has placed upon the market is the Weller Improved Friction Clutch Pulley and Cut-off Coupling, which is represented in the two accompanying illustrations. In its manufacture the company aimed to make a first-class friction clutch that could be placed on the market at a moderate price. The success which the new clutch has attained, as shown by the sales, attests that they succeeded in accomplishing this object.

The special features of the clutch, which recommend it to users, are its simplicity, positive action, and the fact that all its working parts are at all times visible. It is built of the best class of material by skilled workmen, and the company spared no expense in its endeavor to furnish the trade with a first-class article.

THE PREVENTION OF SMUT.

Prof. Henry L. Bolley of the North Dakota State Agricultural College has evolved a method for the prevention of smut in grain, and especially of smut in oats, which three years of trial have proved to be a success.

Prof. Bolley says: "Oats are so generally diseased by loose or flying smut that a very large per cent. of the crop is actually lost. While the disease seems to do no damage to stock, and as, after thrashing, all grains found in the bins are otherwise normal in appearance, it is quite usually supposed by farmers that the smut does very little damage. Now and then, however, it becomes very much more evident. When the seed has once become badly infested by the spores of the fungus it is a common thing to find that a very large percentage of all the heads in the field are completely smutted and destroyed. In my own investigation of many fields I have found that it is not uncommon that as high as 20 and even 40 per cent. of the heads of the grain actually developed turn into smut before harvest time. The result of this is a very much lessened yield.

"Furthermore there is a very much greater decrease of the yield, due to the smut hidden within the straw, and to be seen only by the most careful observer. I have found in the field which shows 10 to 20 per cent. of smutted heads that the actual

killed the copper solution comes in contact with the soft grain of the oat and the germinating power of the grain is injured by the poison.

"Since I ascertained the cause of this trouble, after a great number of carefully conducted germination tests, I have been attempting to find some substance which would kill the smut spores and still not be detrimental to the germinating power of the oat grain. This substance is a liquid sold in the market under the name of formalin. Formalin is a 40 per cent. solution of formaldehyde. By a very great number of germination tests and field trials, it is ascertained that this substance, when properly ap-

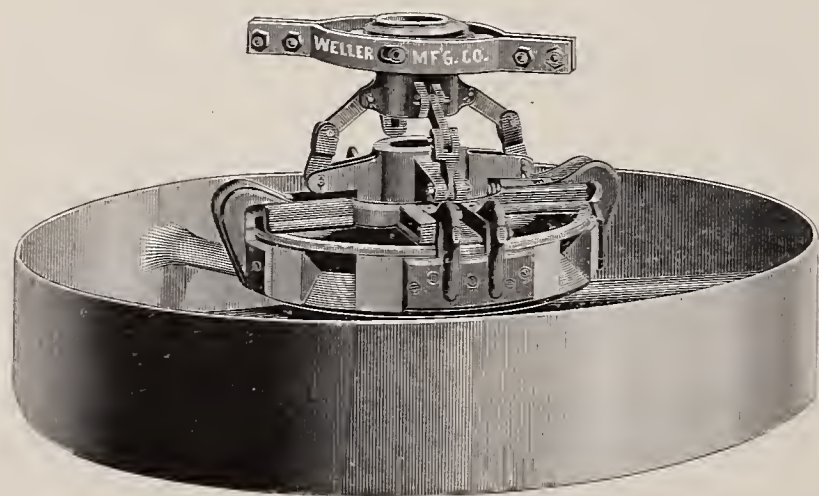


IMPROVED CUT-OFF COUPLING.

plied, will disinfect wheat, oats and barley, so as to prevent the appearance of smut and even increase the yield of the grain, germination being improved rather than injured."

IOWA AND MISSOURI DEALERS WILL MEET.

The annual meeting of the Grain Dealers' Union of Iowa and Missouri will be held at the Hotel Grand, Council Bluffs, Iowa, March 17, 1898. Afternoon meeting at 2:30, night meeting at 7 o'clock. Every member is earnestly requested to be present, as the election of officers will take place at this meet-



FRICTION CLUTCH PULLEY.

number of plants diseased in the straw by the smut is very much greater. It is also found that such diseased straws, even though eventually they head out and appear to ripen normal grains, are very considerably weakened in their growth and lessened in the size of the straw and the weight of grains produced. Always there has been a difficulty in treating oats to prevent this disease. The oat smut gets ripe and the spores blow about in the field, while the shucks around the individual grains of other straws are still open in the blossom. The result is that nearly every grain receives some smut spores sealed up in close contact with the grain inside of the shucks, which close up at the time the grain finishes ripening. Such spores are out of the reach of any treatment which is very effectual. People who have been in the habit of treating oats with copper sulphate invariably have injured the yield, because in order to thoroughly soak the grain so that these inclosed spores may be

ing, and it is very important that you elect your best men to carry on this work. Our membership has been considerably increased since our last meeting, and we are gradually growing stronger. In order to carry on this work successfully we must have your hearty support. It is your duty as a member to lay aside business for one day and attend the meeting. Do not fail to be present, as our meeting will be interesting, and a large attendance is assured.

Yours truly, G. A. STIBBENS, Secy.
Coburg, Iowa.

A North Carolina paper recommends the building of grain elevators as a means of encouraging wheat growing in that district. The elevator is being used in Louisiana to store rice and has encouraged that industry in that the grain can be handled much more economically than before.

IMPROVEMENT OF GRAIN BY SELECTION OF SEEDS.

If the country elevator man would make a more vigorous effort to induce the farmers of his district to change their seed now and then, and always select the best of a crop for seeding, he would profit by having superior grain to handle, and the farmers would receive better prices by reason of the improved quality. The farmers are imposed upon so much by grain seed sharks that it is a wonder they harvest anything but weeds.

If the country grain dealer would persistently remind his patrons of the necessity and advantage of selecting the best of a crop for seed it would surely do his business no harm, and might impress the farmer with the fact that the dealer was interested in his welfare.

The Kansas Farmer says: The law that like begets like is nowhere more true than in the vegetable kingdom. If corn consisting of 12.8 per cent. protein be planted, there is a better probability of getting a crop rich in protein than when seed containing only 7.5 per cent. of this valuable constituent is planted. The susceptibility of plants to change in their chemical composition by seed selection and proper cultivation was brought prominently into view by the success of sugar beet growers in developing that root into a sugar-producer, which threatens to drive cane sugar from the market. When the great Napoleon set about making Europe independent as to her sugar supply the beet yielded about 3 per cent. of its weight in sugar. The caricaturists of that day had rare sport in ridiculing the attempt to suck sugar from the tail of a beet. But the great Napoleon had almost faultless intuitions, and the world has seen the yield of sugar from the beet multiplied by four, and even greater yields than four times the initial precarious 3 per cent. have been realized. Seed selection and giving the plants such conditions as favored their most perfect development of sugar have done it. Beets were found to vary. The seed from rich sugar-yielders tended to produce sugary beets. The experience of the beet-growers has been repeated by the experimenters with sorghum. Mr. A. A. Denton, at Sterling, and the chemical department of the Kansas Agricultural College have conducted experiments in this line which should prove an object lesson to every experimenter who desires to see the value of domestic plants increased.

The cereals, as was the case with sorghum, present opportunities for rapid development which were not possessed by the improvers of the beet. The cereals are annuals, while the beet requires two seasons from planting to maturity of seed. The improvement wrought one season may be made available in seed selection for the next season.

While the extent to which the improvement in composition of useful products may be made is unknown, it is morally certain that they are susceptible of improvement to the extent of great increase in their usefulness, and it is not a little surprising that such experiments have not been ere this a matter of rivalry among the experiment stations.

No elevator man who desires to continue in the business can afford to increase the fire hazard of his elevator by permitting hoppers elevator heads to remain in the plant.

Clipping and grinding oats are decidedly different operations, but there are a number of men in charge of clippers who have not detected any difference. They seem to think that all they have to do is to regulate the feed and the machine will do the rest. Unless the muscle placed in charge of clippers has intelligent direction good work cannot be expected.

During the season commencing in May last, about 7,000,000 bushels of Canadian oats have been shipped from Montreal, St. John and Portland, against about 4,000,000 bushels for the corresponding period last season, showing an increase of about 3,000,000 bushels. The prices realized this season, however, were considerably higher than those ruling for the previous season, as they are shown to be about 11 cents to 12 cents above that of a year ago.—Trade Bulletin, Montreal.

PORTABLE ELEVATORS AND GRAIN HANDLING PLANTS.

A Kansas company has brought out a portable elevator which is so cheap and convenient that shoveling grain from wagons into cars will no longer be necessary, even at markets where the amount of grain shipped is very small. It is designed to relieve the farmer of the shoveling at home as well as at the railroad station.

The machine consists of an elevator leg equipped with belt and buckets and a hopper to receive the

spiral conveyor. The inclined elevator leg is about 26 feet long, and has a flexible spout 15 feet long attached to its head, so that a car can be loaded full without trimming. The cleaner leg is 12 feet long, and has a flexible spout attached to its head which diverts grain to the cleaner in the house. The grain falls from the cleaner to the boot of the loading spout, is elevated and then spouted to a car or to a bin beside the cleaner in the house.

The dump is so constructed that it is easy to get the wheels in the right position, and after the end-gate has been removed, the wagonbox will be completely emptied of its contents without jar or trouble.

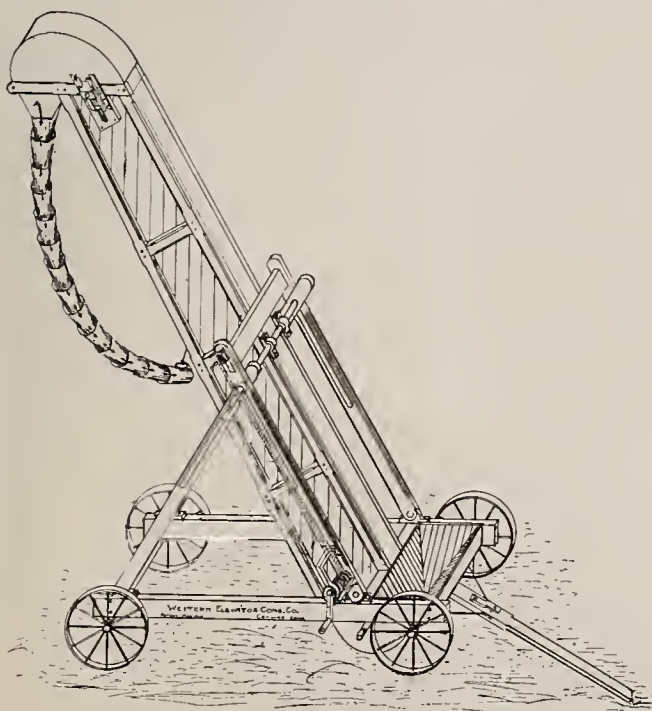


A MODEL COUNTRY ELEVATOR.

grain as it falls from the wagon box. A flexible loading spout is attached to the elevator head so a car can be loaded with very little trimming. The leg is balanced on pivots which work in two movable frames, and so adjusted that they can be placed in any position by means of the rope and winch. The outfit is mounted upon light trucks so that it can be moved easily from place to place. When firmly anchored by means of stakes, but one horse power is required to operate it. An adjustable feed is provided which will prevent choking. The elevators are made of any capacity up to 600 bushels per

A lever is provided at the side to trip the dump, and as soon as the wagon is off the dump logs they are secured automatically in place. A lever is also provided to relieve any choke in feed of the spiral conveyor. An overflow spout and an alarm bell are provided at the head of the loading spout, to automatically relieve chokeups and give the alarm. Power is supplied to the machinery through a shaft at side of dump near the levers as is shown in the illustration given.

The Western Elevator Construction Co. of Conway, Kans., which has applied for patents on the valuable



A MOUNTED PORTABLE ELEVATOR.

hour, and can be made to handle ear corn as well as small grain.

The same firm makes a larger plant, which is also portable and inexpensive, simple in construction, and easily moved and operated. It consists of a portable dump, cleaner and elevator. Its handling capacity ranges from 10 to 25 bushels per minute, depending upon the horse or horses used to run it. The dump and its approaches are in three sections. The grain is conveyed from the dump to the boot of the cleaner leg or of the loading leg by a nine-inch

features of these portable elevators and dumps, has also designed a model country elevator which is illustrated herewith. It is designed to economize room and secure rapid handling facilities at comparatively low cost. The ground plan is but 16x24 feet, yet in this small house there is room for 4,000 bushels, and with one horse the house can handle 500 bushels an hour. One man can weigh, dump and load out five ears a day. The elevator has two 700-bushel bins, one 500, two 100 bushels, and a double dump holding 1,800 bushels. Grain from any

of these bins or dumps can be spouted to a car, to any bin or to a wagon on the dump floor. A long flexible spout enables the operator to load a car without trimming. The 500-bushel and the two 100-bushel bins are intended to be used for storing grain for retail trade, and are provided with spouts for sacking. The spouts are high above the bins so no shoveling is necessary. By means of a switch valve having a horizontal movement, the grain can be turned into any bin. This valve can be worked from the ground floor.

The bottoms of the bins and dumps are built at an incline which permits all the grain to run out readily. A spout or hopper is placed on the track side so that grain can be received from ears. The dump logs are united by a solid platform, and so arranged as to dump easily and to prevent accidents occurring. Any additional information desired can be secured by addressing the builders.

EVANSVILLE GRAIN SHIPPERS ORGANIZE.

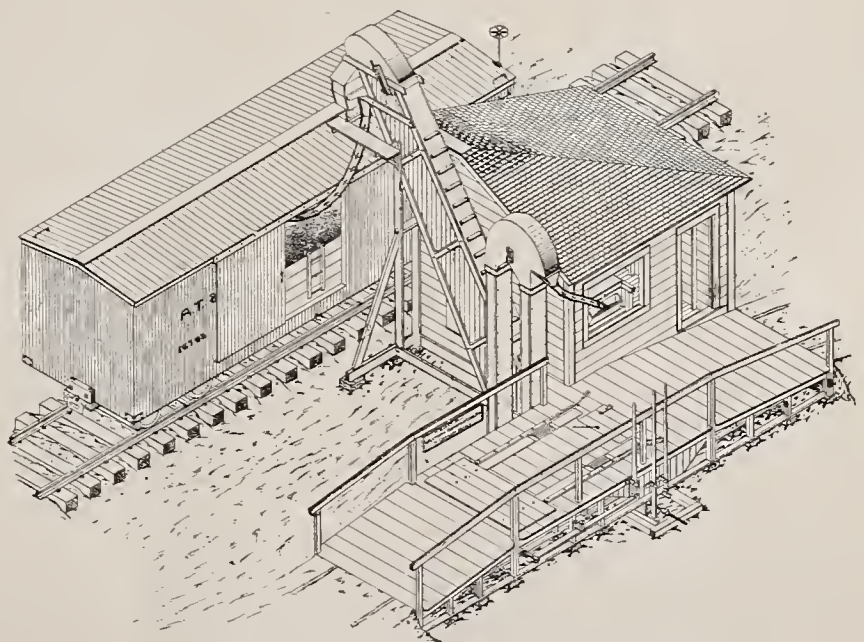
As was briefly announced in our February number, the grain dealers and millers of Evansville, Ind., and vicinity have organized an association to advance their common interests, and especially to secure relief from railroad discriminations. The members of the association claim that their business is being killed by shrinkage allowances made at Cincinnati and Louisville on grain shipped to the southeast, and they want to secure from the Illinois Central the same allowances made to these two points.

J. A. Feuhrer of Mt. Vernon has been elected president, and M. L. Johnson of Evansville secretary.

A constitution and by-laws have been adopted, and the Association will make a vigorous effort to obtain the needed reduction in rates.

M. L. Johnson, who has been fighting these shrinkage rates for ten years, says: "There have been periods when no shrinkage was allowed through Louisville or Cincinnati, but after 30 or 60 days the roads would give shrinkage again."

"If Evansville were on an equal footing 50 per cent. of Louisville's present grain trade would come here. Louisville is not a market of itself as Cincinnati is, nor is it a natural gateway like Evansville. Without the shrinkage rates the dealers and railroads of that place could not compete with this city. As it is this city is unable to compete with it."



PORTABLE DUMP, CLEANER AND ELEVATOR.

COMMUNICATED

[We invite correspondence from everyone in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interest of the trade at large, or any branch of it.]

HAVE PURCHASED ELEVATOR.

Editor American Elevator and Grain Trade:—Edwin Beggs of Ashland, William Lynd of Pleasant Plains, and W. F. Starz of Mount Pleasant have purchased the Samuels Grain Co.'s elevator at Kenney, Ill. It has capacity for 20,000 bushels of small grain and 40,000 bushels of ear corn. The plant will be operated under the firm name of W. F. Starz & Co.

SANGAMON.

CHANGE IN FIRM.

Editor American Elevator and Grain Trade:—You will please drop the name of Tucker & Mosiman from your subscription list, and send the paper this year to Tucker, Dodds & Co. The new firm took possession of the grain, live stock, coal and seed business on March -1, and is making arrangements greatly to increase its business in all lines. Mr. Tucker, of the new firm, has been connected with the grain business of Morton for a number of years.

Yours truly, TUCKER, DODDS & CO.

Morton, Ill.

FROM PHILADELPHIA.

Editor American Elevator and Grain Trade:—The steamer Strohgarly left this port the latter part of February loaded with 348,996 bushels of grain, consisting of 34,286 bushels of corn, 94,710 bushels of rye, and 220,000 bushels of oats. This is the largest cargo of grain that has left this port. It was loaded and inspected under the supervision of Mr. John O'Foering, chief grain inspector. It is a credit to the grain trade of Philadelphia to have an inspector as competent as Mr. O'Foering. The general satisfaction he has given to the receivers and shippers has been remarkable. The men employed by him are also deserving of a portion of the credit.

The major portion of the stock of corn in Eastern Maryland and Delaware has been shipped, Baltimore and Philadelphia receiving about equal portions.

Nearly all the wheat raised in neighboring counties is taken up by the country millers. Most of it is of excellent quality.

A. B. QUAKER.

Philadelphia, Pa.

A PESSIMIST'S VIEW OF THE GRAIN BUSINESS.

Editor American Elevator and Grain Trade:—I met an ex-receiver recently who at one time conducted a very prosperous business at Chicago. He is now in another line and very successful, but he is the worst pessimist regarding the future of the grain trade that I have ever met. He honestly believes that the days of the grain receiver are numbered, and that consignments will soon be a thing of the past. He maintains that the cash grain business at terminals will eventually be controlled by large elevator companies, who will buy direct from the farmers.

I admit that buying on track has greatly reduced the business of Chicago receivers, and probably the receivers at other points have suffered as much, but I doubt that the time will ever come when the elevator men will control the grain business. Many old-time receivers as well as the elevator men have, by their frequent track bids, reduced the consigning of grain. Consigning will not cease entirely until the country dealers have entirely disappeared, for often they are unable to obtain satisfactory bids for their grain, hence consign. It will always be so with some.

If the railroad companies get so many cars they can afford to ignore the country elevator men, then will they be able to grant the operators of large terminal elevators rates which will enable them to control the movement of grain. The country shipper or the receiver at the central market will not be in the business. If the railroads find it necessary to cut rates in order to get business they prefer to deal with as few persons as possible. There is then less chance for misunderstandings and disputes

which would get them into the courts for the violation of the laws.

My friend, the ex-receiver, goes so far as to maintain that the country dealers are now being slowly driven out of business by the terminal elevator men, and says the only reason any of them are permitted to continue in business temporarily is that the railroad companies and the terminal elevator men fear that too vigorous action on their part would result in antagonistic legislation.

The railroads may be in the grain business, and may continue to act through other parties, but I think they will never crowd out the small country shippers, they find them of too much value as collectors of freight.

Of course, the railroads may be expected to give cut rates to large dealers who will move grain when the carriers have little to do, but when such action is unnecessary to keep their rolling stock at work they are not so foolish as to do it.

Railroads are like individuals, they get all they can out of the business, and cut the schedule prices for their services only when it is necessary. That they are not giving as much encouragement to the country elevator men as merited is generally acknowledged, but it must be admitted that fear of prosecution rather than selfishness guides some of them in such action. When the country elevator men are more thoroughly organized, and get a clearer understanding of their real needs they will not only hold their own, but will advance. If any have contrary opinions, I would be pleased to read their arguments in support of same.

Respectfully, W. L. STRONG.

CHANGES IN LIST OF REGULAR DEALERS

Editor American Elevator and Grain Trade:—Please publish the following changes in the list of regular grain dealers of Illinois compiled by the Illinois Grain Dealers' Association:

J. T. Davidson of Mahomet has retired from the grain business.

J. S. Hewins of Rankin has also retired.

J. L. Belden has succeeded Suffern, Hunt & Co. at Prairie Hall.

Siebens Bros. have succeeded J. E. Springer at Buckley.

F. Fugate is the successor of Z. N. Elliott at Coles.

J. K. Zorger has succeeded W. E. Wilson at Dewitt.

Shearer Bros. are the successors of D. Evans at El Paso.

Fleming & Noble have succeeded B. S. Tyler & Co. at Bethany.

Snyder & Snyder are in the grain business at Potomac.

West Bros. & Cummings are located at Loda.

L. J. Kinsman has also entered the grain business at Loda.

S. A. Duffy is located at Burnside.

The Borton Elevator Co. is located at Borton.

Buchholz Bros. of Melvin have dissolved partnership, and the firm is now Buchholz & Spellmeyer.

The firm of Durbin & Tivis of ——— has dissolved, and Tivis & Linder succeed.

Parker & Moyer of Kemp have been succeeded by M. E. Howrey & Co.

Boner & De Bolt have sold their elevator business at El Paso.

B. S. Tyler & Co. have succeeded T. J. Freeland & Co. at Dalton City.

Yours truly, B. S. TYLER, Secretary.

Decatur, Ill.

David W. Ramsdell, famous as the discoverer of the "Norway Oat," died recently at South Royalton, Vt., at 74 years of age. In 1861, when a young man, engaged in farming, he procured from the government a package of oat seeds from the West in which he found a peculiar oat. He cultivated it, and from its sale amassed a fortune.

Farmers in the vicinity of Lisbon, N. Dak., sold about all their wheat when the recent boom in the market began, not taking the precaution in a great many cases to preserve their spring seed. The Monarch Elevator Co., in this dilemma of the farmers, has ordered its agents to ascertain the amount of seed needed throughout the different districts, and when in possession of the figures the company will supply the wheat needed.

DEMURRAGE AT PEORIA.

The old question of demurrage has been causing some trouble at Peoria recently, and the Transportation Committee of the Board of Trade has tried to settle it. The selfishness and narrowness of the carriers in this matter is remarkable. They never think of making amends for the losses occasioned by their delay of freight, yet when a carrier's old, worn out cars are delayed a minute over the specified time allotted for loading and unloading they insist upon the shipper or receiver paying demurrage—a jug-handled affair devised for the purpose of exacting money from the shippers and receivers.

The manager of the Peoria Car Service Association succeeded in making it so decidedly unpleasant for the manager of the American Spirits Manufacturing Co. that he wrote the following letter to every dealer in that market:

"From this date all grain purchased from your firm for any of our plants at a given price delivered must carry any car service or demurrage charges which shall accrue before it is unloaded, we, of course, using due diligence in unloading same. We are compelled to take this action in consequence of the actions of Ashley J. Elliott, of the Illinois Car Service Association. We are large buyers of grain, all of which is purchased from the different grain firms of the Peoria Board of Trade, and the majority of which is to arrive. At times this grain is delayed in transit by the different railroads, which compels us to purchase for immediate use. Probably the next day grain which should have been delivered three or four days previous arrives and is switched in by the terminal roads, blocking our tracks and rendering it impossible to unload according to prescribed rules which are promulgated and enforced by Mr. Elliott."

In other words delay by a receiver is a crime against the laws made by carriers, but delay by a carrier is no offense.

HISTORY OF SCALES.

The use of scales or balances is traceable to the earliest evidences of civilization. On the inner walls of sacred temples of ancient Egypt they are represented as being used for weighing human souls to ascertain where they should be assigned for future existence.

Instead of metal bowls or pans being suspended from the balancing beam, the shells of fish or nuts were used in the beginning, and designated by words similar in meaning to shell or scale. During later periods bowls carved out of wood were quite generally used, and may be seen in use to-day in some Oriental countries in weighing grain.

Our word balance comes from the Latin word bilanx, bi meaning two, and lanx, pan—two pans suspended from a balancing beam. The weights used in balancing were numerous and even ridiculous, but not much more so than many of the absurdities still practiced in civilized countries. In soul-weighing the tip of an ostrich plume is represented. In weighing merchandise, weights made of stone and metal in the shape of the heads of cattle, and small hard seeds, coins, etc., were used. Our term scruples means sand; dram, handful; grain, little seed; and pennyweight, old silver penny. The use of such weights on one side of the balance, of course, does not compare favorably with our accurate mechanical appliances. No doubt, though, they were as nearly uniform as is our present system when considered in an international way. For instance, a hundredweight with us very naturally means 100 pounds, but in weighing rough rice in India it means 112 pounds. A ton scarcely has any meaning whatever unless applied to some particular article in a certain locality.

We need not wonder how our primitive ancestors got along without such appliances as platform, wagon and track scales. Their grain was handled in wooden or earthen vessels or baskets, and was transported in skins of animals on the backs of camels and asses. It was therefore always in convenient shape for measuring, or to be weighed in the same kind of a balance as was Belshazzar, the Babylonian king, when he was "weighed (figuratively) in the balance and found wanting."

STATE INSPECTION OF GRAIN PROPOSED FOR OHIO.

The grain trade of Ohio is threatened with a heavy burden in the form of a state law providing for the regulation of the inspection of grain in that state and the regulation of all grain warehouses having a capacity of 25,000 bushels and over. The bill introduced by Representative Snider of Green County provides for the inspection, warehousing, weighing and shipping of grain. The term "warehouse" is applied to a storehouse which holds at least 25,000 bushels of grain. The bill establishes in the office of the state board of agriculture a grain bureau, with a grain commission, consisting of the secretary of said board, who shall be secretary of the commission; the president of the board of public works, who shall be president of the commission, and the commissioner of railroads and telegraphs. The commission shall meet on the first Tuesday of January, March, May, July, September and November and oftener if necessary. The commissioners shall be paid only their expenses. They can select such clerical force as needed. The attorney-general is their legal adviser.

The secretary of state shall furnish all stationery, etc., and a seal bearing "Ohio Grain Commission." The commission shall appoint a state inspector and weigher of grain, whose title shall be "Grain Inspector." He shall be a grain expert of good business qualifications and not connected with any warehouse or carrier of grain. He shall hold office for three years and give a \$25,000 bond. He is empowered to nominate to the commission such deputy inspectors as he deems necessary. The inspector is liable on his bond for \$500 for the willful malfeasance, misfeasance and nonfeasance of each deputy. He may require from them an indemnifying bond of \$1,000. The deputies shall hold office during the incumbency of the chief inspector. They shall not be connected with any warehouse.

The president of the commission shall receive a salary of \$200, the secretary \$600 and the chief inspector \$2,400 and necessary expenses. The deputies shall receive fees. Prior to June 1, 1898, every warehouse shall, through its owner or lessee, apply to the commission for a license to do business, setting forth the name and location, with the storage capacity in bushels, of such warehouse, including the name of the owner. Such application shall be accompanied by bonds as follows: For a warehouse of less than 50,000 bushels, not exceeding 100,000 bushels, \$8,000; not exceeding 200,000 bushels, \$12,000; not exceeding 500,000 bushels, \$18,000; not exceeding 1,000,000 bushels, \$30,000; all over that, \$45,000. The bond shall be conditioned upon obedience to the law and the rules of the commission. A license shall be issued which can be revoked. If this is done and the warehouse is not relicensed, the same shall quit business. For every license a fee of \$100 is charged, with an addition of 5 cents for each 1,000 bushels capacity of the warehouse up to 1,000,000 bushels.

Each warehouse shall be provided with facilities for keeping separate the several grades of grain as established by the commission, with proper appliances for testing grain and correct scales for weighing either in bulk or on cars. Every warehouse shall receive grain unless it is unfit for storage or shipping. It shall be inspected and graded upon receipt and marked accordingly. It cannot be shipped unless inspected. A certificate shall be issued to the seller stating the kind and quantity of grain received. A receipt shall be issued for each kind of grain and but one can be issued for the same lot. These certificates are transferable. Provision is made for duplicating lost or destroyed receipts. Owners shall be entitled to their pro rata of insurance upon the contents of the warehouse if destroyed by fire. In case grain is spoiling the commission shall be notified.

The rates for storage are for receiving and delivering for the first 10 days $\frac{1}{2}$ of a cent per bushel; for each additional 10 days $\frac{1}{4}$ of a cent; for blowing or cleaning 1-10 of a cent per bushel when grain is stored, and one-third of one cent per bushel when not stored, the screenings to be accounted for or delivered to owner.

The inspector is to charge fees as follows: For weighing or inspecting, one-twentieth of one cent per bushel, but not exceeding 25 cents per car nor five cents per hundred bushels per vessel; for weighing and inspecting, one-fourth of the foregoing in addition thereto; inspection in bags, one-fifth of one cent per bushel; for examining and testing scales, \$1, when required by law, all appliances for testing being furnished by or at expense of the warehousemen. All proceeds of collection of fees and licenses, over and above expenses and salaries, are to go to the state treasury.

The wise legislator who drafted the bill probably heard of grain inspection and the grain business the day before he drafted it. Surely he knows very little about the business and makes himself ridiculous in the eyes of grain dealers by his bill. If it is ignored by the dealers it may become a law and drive all of them out of business.

THE SMITH GRAIN CUTTING MACHINE.

No elevator man who has put in a good feed mill has had occasion to regret it, in fact most of those who have experimented in this line have found it very profitable. They have been able to get a good price for their screenings and clippings, and in some cases a small percentage of corn cobs has been ground up with low grade grain without diminishing the feeding value of the product. Power and space that otherwise would have gone to waste



THE SMITH GRAIN CUTTING MACHINE.

have been utilized and in many cases the feed mill has been operated without extra expense for labor.

This journal has on more than one occasion called attention to the interest manifested in machinery intended for the reduction of grain in the collateral branches of milling, if we may call them such. The machine herewith shown is a new departure in that it aims to reduce the grain to food for man and feed for beast by cutting rather than grinding. The constantly increasing demand for feed for animals, and the growing popularity of cereal foods among all classes promoted the idea of this machine, along with the belief of the inventors that cutting would produce a healthier, better and less wasteful product than grinding.

The mechanism is extremely simple. Two or more cylinders are employed, that may vary in length, with a shaft through the center mounted on a frame with bearings for the shaft. The cylinders have slots cut in them at an angle, and about one inch apart and straight across the cylinder from end to end, in which are placed straight steel blades or knives. By means of a screw-threaded mechanism at each end of the shaft the knives can easily be drawn in or pushed out from the surface of the cylinders and locked so that they cannot move.

When two cylinders are used, as shown in the machine illustrated, they are mounted side by side on a frame, and about one and a half inches apart; and below the center, between the cylinders, is a cutter support on which is attached a stationary knife on each side. By drawing the knives in the cylinders close to the surface and raising the stationary knife up between the cylinders so that the knives in the cylinders will just pass the stationary knife, the mill will cut fine. So, by extending the knives in the cylinder out from the surface, and lowering the stationary knife, the machine cuts coarse. The change from cutting coarse to fine, or vice versa, is readily and quickly effected.

This machine has been put into practical operation, and has received commendatory notice as having good capacity and requiring little power. It

was patented Dec. 7, 1897. The inventors and patentees are Smith Bros., Newton, Iowa, who believe their machine will be found adapted for making steel-cut corn grits, hominy, cut wheat, beans and other cereal foods besides feed for stock. They are not making the mill for sale, but wish to interest parties in its manufacture, and to such will send samples of its work.

SUFFICIENCY OF DEMANDS ON AGENTS IN CHARGE OF ELEVATORS.

There seems to be no little conflict of authority upon the question of the sufficiency of demands made upon agents for the possession of property belonging to their principals in their possession, where a demand is held to be necessary before bringing replevin or suing for the conversion of such property. Under some well-considered authorities, each case seems to depend upon its own peculiar facts, and a demand will be held sufficient or otherwise, depending upon the relation held by the agent to the subject-matter of the property demanded, and the nature of the agent's business. Applying this rule to the recent case of Frank A. Seymour and others against the Cargill Elevator Company, 71 Northwest-ern Reporter, 132, where the plaintiffs, claiming certain grain under a chattel mortgage, demanded the delivery to them of the grain before suit was brought for converting the grain, such demand being made of the defendant elevator company's agent in charge of one of its elevators located in North Dakota in which the grain was stored at the time of such demand, the Supreme Court of North Dakota said it found that the agent referred to had the usual authority and powers conferred upon elevator agents in that state in charge of the elevators of non-resident corporations. It further remarked that they are a very numerous class of agents, and their relations to the farmers and business men of the communities where they are stationed is of a vitally important nature. The great bulk of the grain raised in the state passes out of the state, through the instrumentality of these agents and the elevators, which, as a rule, are in their sole care and keeping. Speaking in general terms, the public sees no representative of the owners of the elevator lines except the agent in charge of the elevator. Such agents are something more and different from a mere servant, who may be temporarily in custody of property belonging to his principal, but who has no responsibility with respect to the same other than that of a mere custodian. They must be men of intelligence and fair business judgment. The court also took into account that if the party demanding grain in a local elevator should be compelled to make his demand upon some non-resident official of the corporation, he would first be obliged to ascertain where the managing office is situated, and, learning that, he would then be bound at his peril to search for and find that particular officer, clothed by the corporation with authority to surrender grain to an outsider who might claim it. Nor would it be very probable that any agent or officer would be readily found who had general authority to make such delivery in all cases. In view of these considerations, and of the ease and rapidity with which communications between principal and agent can be made, the court holds that a demand, such as was made in this case, of the agent in charge of an elevator where the grain is stored at the time, is sufficient, as against the elevator company. Nor does it consider that the question of the sufficiency of the demand in such a case can be governed by mere instructions given by the elevator company to its agent, but must be controlled by general principles of law and public policy. For this reason, it did not think it necessary to determine the question whether evidence of usage tending to show that elevator agents have no authority to deliver grain to anyone without instructions from headquarters was improperly excluded from the jury in this case. Such usage or instructions, if any were given, the court declares, do not control the public, nor determine the rights of the public.

The Nebraska Grain Dealers' Association held a meeting and banquet at Lincoln, March 10 and 11.

NORTHWAY'S TWO-PAIR HIGH FEED AND CORN MILL.

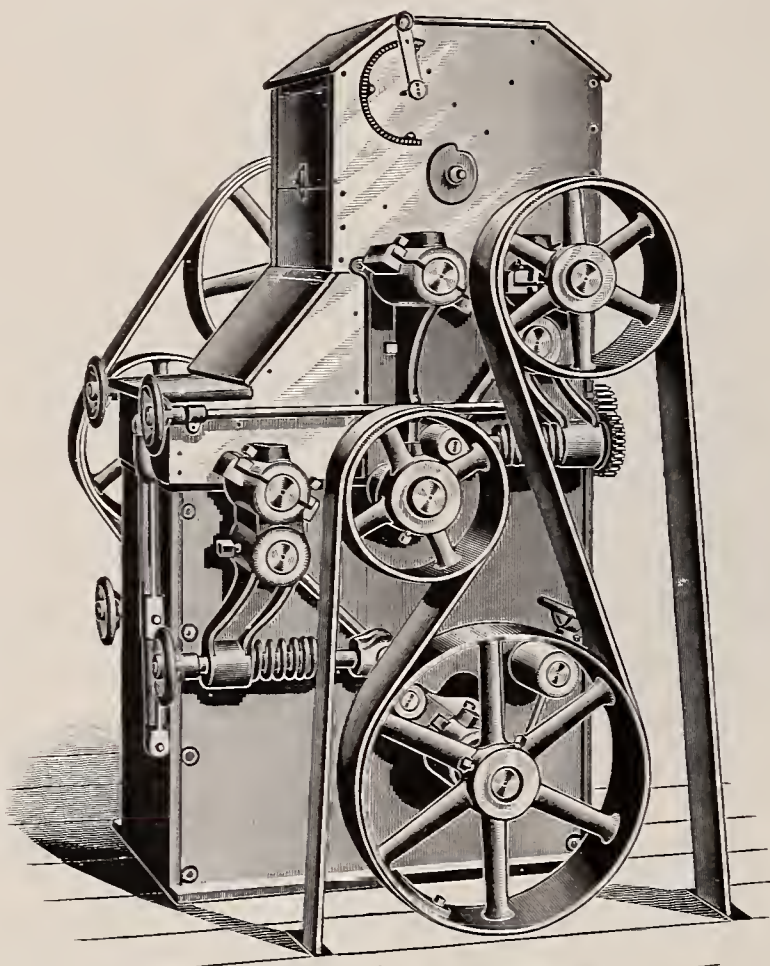
Elevator men in many localities are finding an enlarged and more profitable outlet for their grain by converting a portion of it into feed. It is well, however, for those who contemplate such additions to their plants to remember that feeders are much more exacting as to the character of ground feed than formerly. To produce a satisfactory article in a manner that will be profitable requires modern machines that have large capacity and are light-running. One of these modern machines is Northway's Two-Pair High Feed and Corn Mill, a cut of which we give on this page.

This machine is designed for grinding mixed feed, corn, oats, barley, etc. It is also intended for use in making rye and buckwheat flour and in corn meal milling. The special points about this mill will be seen from the brief description given herewith. The mill can be driven from either side from a shaft running in either direction. It drives with one single belt from below the floor. The belts all have large contact with the face of the pulleys,

lower end of the adjustable roll boxes are placed coil springs; one end of these springs rests against the arm of the movable roll boxes; at the other end of the springs are hexagon nuts. These are turned against the springs sufficiently to give the proper tension to the springs, which are to press against the roll box arms and keep the rolls in position for grinding. The movable roll boxes hang on eccentric pivots for the purpose of tramming or leveling the rolls. When the babbitt wears so that the rolls are not in tram, this adjustment enables the miller to place them in tram readily.

The operator adjusts the feed at the front of the mill by a spring ratchet engaging a segment of rack at the side of the feeder. The feeding device is simple and requires little attention. Feeling of the grinding and adjusting both pairs of rolls for grinding distance are done in front of the mill, and throwing apart both pairs of rolls is done by one movement of a lever at the front of the mill. The whole of the adjustment of the mill is made from one side.

The manufacturers of this mill are Strong & Northway Manufacturing Co., Minneapolis, Minn.



NORTHWAY'S TWO-PAIR HIGH FEED AND CORN MILL.

thus preventing, with a moderate tightness of the belt, the slipping of belts and insuring the proper maintenance of the speeds of the rolls.

The mill has an adjustable countershaft contained and operated in the machine for tightening the belt. The main belt drives the fast rolls; on the opposite end of this countershaft from the driving side is placed a pulley, a belt from which drives the slow rolls and maintains the desired differential speed. The tightening countershaft is adjusted up or down by a hand-wheel and screw on either side of the machine. Belts have been thus substituted for gears, as being practically noiseless, besides which the manufacturers claim that belted mills grind more evenly because of the absence of jar; and lastly, because when rolls are recorrugated and consequently made smaller, after the second or third time it is necessary to turn off the gears also.

The two-pair idea was adopted for this mill as being easier to keep in tram and also to enable the user to have the rolls corrugated as might be necessary. It will be inferred from the cut that the lower pair of rolls is not directly under the upper pair. This arrangement is made to permit of a full belt drive.

On the eccentric rods which pass through the

They have sold quite a number of them for various uses and inform us that they have given excellent satisfaction wherever put in. They will take pleasure in answering any inquiries that may be made of them.

Trouble has arisen between grain buyers and warehousemen of Tacoma, Wash., over the methods of handling grain at the warehouses. The greater part of the warehouses in Eastern Washington only take grain for storage, keeping each grower's product separate. There are a number of private individuals, however, who issue warehouse receipts to the farmer, giving him credit for the grain at their own grades of inspection.

Elevator men whose cribs are infested with rats might drive them away by placing a mixture of rye flour and plaster of paris near a pan of water at frequent intervals about the premises. A farmer writing in a local weekly tells of this way to drive away rats, which he found very successful. After catching a great many in traps his premises were still overrun with rats. He mixed rye flour and plaster of paris in the proportion of 3 to 1 and placed the mixture where the rats could get it. The rats soon disappeared, and he has experienced no trouble from them since.

QUERIES: AND: REPLIES

[Questions and answers are inserted under this head free of charge, and all are invited to avail themselves of this column.]

No. 8. Hemlock for Cribbing.

I would be pleased to know if any elevator man has had experience with hemlock for cribbing in grain elevators, and if it has proved satisfactory. Any information on this subject, however meager, will be thankfully received.—T. C.

STATE INSPECTION FOR PEORIA.

The hungry horde of politicians that is ever on the lookout for a sinecure is still working to secure the establishment of a state grain inspection bureau at Peoria. This, too, in spite of the fact that those in the grain trade at Peoria not only are satisfied with the present inspection, but have protested vigorously against any change. As the Peoria dealers are the principal parties in interest, their wishes should first be considered.

The last Legislature was so indiscreet as to leave the matter in the hands of the county supervisors, a body which is made up of men who are not supposed to know anything about the needs of the grain trade. While it would be to the interest of the grain trade to have uniform grades everywhere, there is no good reason for displacing a grain inspection department which has given such general satisfaction as has that of the Peoria Board of Trade.

THE AMERICAN MAIZE PROPAGANDA.

The first corn convention ever held in the United States convened at the Great Northern Hotel at Chicago, Ill., on February 16. Delegates from nearly all the great corn growing states were present, and the object of the meeting was to further the knowledge both at home and abroad of the utility of corn as an article of food and to show the various other ways in which it could be utilized.

The convention organized as the American Maize Propaganda and the following officers were elected: President, Colonel Clark E. Carr of Illinois; vice-president, John Cownie, Iowa; secretary, B. W. Snow, Illinois; treasurer, Andrew Langdon, New Jersey. The convention arranged for a special corn exhibit at the Omaha Exposition in the fall, and at the Buffalo Pan-American Exposition, to be held next year. A very large exhibit will be also made at the Paris Exposition in 1900, and an effort will be made to have Congress set apart \$50,000 for this exhibit. The exportation of corn has increased greatly in the last two years, being 99,992,835 bushels in 1896, and 176,916,000 bushels in 1897. Of the amount last year 154,000,000 bushels went to European countries.

During the morning session J. J. Murphy of Chicago presented some very interesting information regarding the corn movement abroad. He reviewed the work carried on by his father, Charles J. Murphy, who both in Germany and Denmark, did very much toward establishing a larger market by showing the people of those countries the utility and desirability of corn as a human food.

The following resolution was passed at the meeting:

Resolved, That this Congress commends the earnest efforts of the manufacturers of new corn foods and other products to increase the use of corn; so long as such products are made and sold for what they are, they have everything to gain and nothing to fear.

The executive committee adjourned to meet at Omaha, Nebr., in November.

In connection with the convention there was held, in a building on Washington Street, a practical demonstration of the value of corn as an article of food. Here corn was served in dishes prepared in various and tempting styles, free to all visitors during the day.

Kentucky is firmly convinced that the recent corn convention in the city of Chicago didn't pay enough attention to the liquid possibilities of that cereal.

ELEVATOR AND GRAIN CASES.

Bishop & Co. of Cincinnati, who were debarred from the Cincinnati Chamber of Commerce for alleged unmercantile conduct, have sued the Chamber for \$10,000 damages.

Suffern, Hunt & Co. of Decatur, Ill., have sued the Western Union Telegraph Co. for \$1,000 damages. The company delayed a message to St. Louis long enough to lose Suffern, Hunt & Co. a sale.

Another of the parties who had wheat stored in the warehouse of the Farmers' Union and Milling Co. at Stockton, Cal., at the time of the great fire, has brought suit to recover. The complainant is Antoinette B. Muentner and the amount claimed as the value of the wheat destroyed is \$1,055.10.

The Bagley Elevator Co. has settled at Groton, S. D., with all the farmers who had claims against it for wheat delivered without the issuance of tickets. The amount paid out was \$1,176 and the claims arose from the acts of an absconding agent. There was a doubt as to the legal liability of the company, but it did not care to test the matter.

The United States Circuit Court of Appeals has handed down an opinion reversing the decision of Judge Grossepup in the case of the Chicago Sugar Refining Co. versus the Charles Pope Glucose Co., who refused to grant an injunction against the Pope Co. enjoining them from manufacturing glucose out of corn. This is therefore a victory for the glucose trust.

The jury at Litchfield, Minn., in the case of the State versus Hukreide, for disposing of wheat in storage in his elevator, prior to the failure of the firm of Harris & Hukreide, brought in a verdict of grand larceny. Sentence was deferred by the court to enable the defendant to make a motion for a new trial and prepare a bill of exceptions. The prosecution did not oppose the motion.

John P. Wakefield of Andover, Mass., brought an action against Albert H. Farnum and others, local brokers, to recover \$2,305 alleged profits on the fictitious purchase and sale of wheat. The defense was that the transactions were illegal because gambling. The supreme court has just decided the case for the defendants, holding that the contract was a wagering contract and that the plaintiff could not recover any alleged profits on such a deal.

The Rome, Watertown & Oswego R. R. commenced suit against a shipper in Oswego County, N. Y., for shipping grain at underweights. The station agent had accepted the shipper's weights and the railroad claimed that it had discovered that the shipper for some time had billed grain at underweights. When the matter came up for trial the matter was compromised by the railroad company accepting a stipulated sum in settlement of its claims.

A case involving an important principle came up at Grafton, N. D. George Marshall sued Andrews & Gage, an elevator firm of Minneapolis, for the value of 600 bushels of wheat which he had stored in the elevator at Drayton before it burned. The elevator people admitted possession of the wheat at the time of the fire, but claimed that Marshall left the storage tickets uncalled for. He had been notified that the elevator would not be responsible for the grain in case of accident.

The Scioto Valley Grain Co. got a judgment last month, at Chillicothe, Ohio, for \$12,000 damages against the Scioto Valley Railway Co. for breach of contract. The contract was made in 1879 when Mr. A. L. Fullerton was operating an elevator at Lucasville, Ohio. He was contemplating moving it to Chillicothe, when the railroad company, wanting an elevator at County Bridge, agreed with Mr. Fullerton that if he would establish his elevator there it would give him the same freight rates that he would get at Chillicothe, and also agreeing to haul corn in the ear between intermediate points at the rate of \$3 per car. Accordingly the Scioto Valley Grain Co., of which Mr. Fullerton was one of the members, put up an elevator costing \$7,500, with cribs, etc. The company put in the necessary sidetracks and for a number of years the business was operated at a profit

of about \$3,000 annually. Then came a change in the management of the road and the contract was repudiated. The railroad company secured a new trial, alleging that its counsel was not notified in time. The case has been in court for several years.

Judge Hanford of the Federal Court at Tacoma rendered last month a decision in the case of the Tacoma Grain Co. versus the Oregon Railroad & Navigation Co., which sustains the constitutionality of the recently enacted railway transportation law fixing a maximum charge for hauls within the state of Washington. The plaintiffs alleged that the O. R. & N. Co. refused to receive wheat in carload lots at stations on its lines for shipment to Tacoma over its line at a rate fixed by the legislature for through shipment, and also refused to receive through freight originating on its own line to be transferred to another line at the rate fixed by law. The defendants questioned the right of shippers to treat the several lines as one continuous line.

ILLINOIS DEALERS WILL MEET IN CHICAGO.

The spring meeting of the Illinois Grain Dealers' Association which will be held in Chicago Thursday and Friday, March 17 and 18, promises to be the most interesting meeting the Association has ever held, and the returns from members who will be there assure a large attendance.

A number of matters of vital importance to every regular grain dealer will be presented for action, and some able addresses will be made. The program so far as completed is as follows:

THURSDAY MORNING.

A reception will be held in the Trading Hall of the Board of Trade, and in Convention Hall, Hotel Morrison, southeast corner of Clark and Madison streets. All grain dealers will be welcome to the Convention Hall as well as to the trading floor of the Board.

THURSDAY AFTERNOON.

1:30 p. m.—Meeting called to order in Convention Hall by President S. S. Tanner.

Address of Welcome.—Z. R. Carter, president of the Chicago Board of Trade.

Our Association.—S. S. Tanner, Minier.

Reading Minutes of Last Meeting.—Secretary B. S. Tyler.

Report of the Association's Traveling Representative.—C. R. Hambleton.

Reports of committees.

Elevator and Storage Facilities Essential at all Country Grain Markets; Why Railroad Companies Should Protect Elevator Men.—Thos. Costello, Maroa.

Public Elevator Men as Grain Dealers.—S. H. Greeley, Chicago.

THURSDAY EVENING.—A Smoker.

8:00 p. m. Errors in Elevator Accounts.—J. A. Demuth, Oberlin, Ohio.

License Fees for Irregular Dealers.—A. E. Clutter, Lima, Ohio.

Experiences in the Grain Business.—Every member.

FRIDAY MORNING.

9:00 a. m. Grain Dealers' Duties to Each Other.—H. C. Mowrey, Forsyth.

A Plain Talk to Grain Merchants Who Prefer the Trade of Scoop Shovel Men to that of Regular Shippers.—E. R. Ulrich Jr., Springfield.

FRIDAY AFTERNOON.

2:00 p. m. The State Association; Its Members; Its Defects; Remedies.—B. S. Tyler, Decatur. Followed by general discussion.

Railroad Pooling.—Geo. F. Stone, Chicago.

Necessity and Benefits of Maintaining Associations.—Charles S. Clark, Chicago.

A general discussion will follow each address and paper.

It is expected that several additions will be made to the foregoing, and there may be an address on the Economy and Advantages of the Modern Country Elevator.

Headquarters will be at the Saratoga Hotel, 159 Dearborn Street. The Convention Hall is on the third floor of the new Hotel Morrison, southeast corner of Clark and Madison streets. The hotel

rates for the convention are 75 cents a day for one person in a single room; two in a single room 50 cents apiece. Rooms with bath \$1 to \$2.50 per day.

President Carter, of the Chicago Board of Trade, has appointed a Reception Committee to extend the courtesies of the Board to the Illinois Grain Dealers' Association. It consists of the following: Wm. N. Eckhardt, Wm. L. Kroeschell, Wm. S. Seaverns, I. P. Rumsey, W. H. Chadwick, L. W. Bodman, J. C. F. Merrill, Frank E. Winans, P. H. Eschenburg, S. H. Greeley, Arthur Sawers, Ed. L. Glaser, W. O. Mumford, Henry Hemmelgarn and A. C. Curry.

Visiting members wearing convention buttons will be admitted to the trading floor of the Board of Trade.

Every regular grain dealer will be welcome.

DOTS AND DASHES

A well-coopered car does not scatter grain along the way.

The agitation of the shortage trouble is prompting all weighmen to be more careful.

The winter wheat crop killers have opened for business in St. Louis, says the Chicago Trade Bulletin.

The Grain Dealers' Union of Southwestern Iowa and Northwest Missouri will meet at Council Bluffs, Iowa, March 17.

It is reported that the demand for corn at country points near Philadelphia has fallen off considerably during the present month.

The Chicago meeting of the Illinois Grain Dealers' Association promises to be the best attended meeting the Association has ever held.

On March 10 a carload of corn was unloaded which contained 83,590 pounds, or 1,492 bushels, which is said to be the largest load on record.

Griggs Bros. of St. Paul bid \$1,025 for the 8,000 bushels of wheat that was damaged by the burning of the Minnesota & Dakota Elevator at Waverly, Minn.

A. H. Richner, Crawfordsville, Ind.: Please do not insert my ad. again, as I sold my boiler on my first ad. Long live the "American Elevator and Grain Trade."

The inventor who will design a small oat clipper which will do good work and can be sold at a price within the reach of the country elevator men will reap a rich harvest.

The last nail was driven into the coffin of the once promising sorghum sugar industry in Kansas, when one day recently the last piece of sugar machinery in the state was shipped from Fort Scott to some point in Nebraska. The government expended nearly \$250,000 in this experiment.

It is claimed that the farmers along the northern line of South Dakota sow two pecks of wheat and one peck of flax to the acre, and harvest therefrom 15 bushels of wheat and 12 bushels of flax. As they get the grain separated at one cent per bushel, they make a good profit off this double crop.

The large Taylor grain elevator at the corner of Twentieth and Pennsylvania Avenue at Philadelphia, Pa., is being removed to a new location south of its present site, to accommodate the southern bordering wall of the new Philadelphia & Reading Railway subway. The elevator is filled with grain, and the contractors who had the work in charge had not only to lift the great building with its thousands of tons of timber and machinery, but also while its great bins were overflowing with thousands of tons of wheat, corn, oats and barley.

Years ago, when Milwaukee was a center of speculation in the wheat trade, a Chamber of Commerce man planted a few grains of wheat in his back yard and permitted the appearance of his tiny crop from day to day throughout the summer to govern his operations on the board. When it flourished he was a bear; when it seemed to languish he became a bull. Tradition says that he came out all right at the end of the season. But if everybody were to adopt his method and follow it all the time, most people would go wrong.—Evening Wisconsin, Milwaukee.



The Porter Brewing Co. of Joliet, Ill., will enlarge its plant.

A receiver has been appointed for the Maumee Brewing Co. of Toledo, Ohio.

It is reported that a large elevator and malt house will be built at Menasha, Wis.

B. Jacobs has purchased the brewery of the late Peter Jacobs at Uniontown, Wash.

The Pipestone Elevator & Malting Co. of Pipestone, Manitoba, has been incorporated.

It is reported that A. Langenkamp & Bro., brewers of Tisch Mills, Wis., have made an assignment.

It is reported that Henry Roether and John Menske have leased Joseph Transch's brewery at Mazeppa, Minn.

The Windsor Brewing Co., Limited, has been incorporated at Windsor, Ont., with a capital stock of \$20,000.

Val. Loewer's Gambrinns Brewery Co., New York City, is building a five-story malt house at a cost of \$50,000.

The Charleroi Brewing Co. is building a brewery at Washington, Pa., with an annual capacity of 20,000 barrels.

The Kootenay Brewing, Malt & Distilling Co.'s plant at Trail, British Columbia, has been sold to John R. Myers.

Four trains of 25 cars each, loaded with barley malt, have just been shipped from Milwaukee to an Eastern consumer.

During the six months ending January, 1898, Belgium imported 10,903,716 bushels of barley, and exported 2,087,500 bushels.

The Jacob Ahles Brewing Co. of New York City is to be dissolved, and Geo. W. Donnelly has been made permanent receiver.

Wm. R. Wells was recently appointed assistant traffic manager of the American Malting Co., with headquarters at Chicago.

The Davis Malt House at Watkins, N. Y., has been leased by S. K. Nester of Geneva, who will overhaul it and put it into operation.

The newly organized Standard Brewing Co. of New Orleans, La., has contracted for a modern brewing plant to cost about \$100,000.

The exports of barley from Austria-Hungary during the period Aug. 1 to Dec. 31, 1897, were 10,878,400 bushels, and the imports 1,809,583 bushels.

The brewery business of Kellar & Wagner at Yankton, S. Dak., has been purchased by Emil Schamber and C. J. Hezel of Enreka, and the plant will be moved to the latter place about July 1.

It is said that a consolidation under one management of most of the smaller brewing concerns in Chicago is being agitated, and efforts are being made to complete such an organization.

Henry Rahr's Sons of Green Bay, Wis., are operating their houses day and night at full capacity. They recently received an order from Brooklyn, N. Y., for 25,000 bushels of malt and expect soon to have orders for all they can turn out up to the close of the season.

It will, no doubt, be news to most people that port wine can be made from barley. The British Consul at Naples says the barley is first malted, "then the bacilli of port wine are introduced into the mead, where they fecundate incontinently, and transform it from immature beer into the richest port. When

the animalculæ have done their work they can be sterilized, a sufficient stock of microbes being preserved in the laboratory for further use."

The Wisconsin Malt & Grain Co. of Appleton, Wis., it is reported, will at once build an addition to its plant with a capacity of 325,000 bushels yearly.

The new company which has incorporated as the Cleveland Brewing & Malting Co. and said to have a capital of \$10,000,000, is a combination of thirteen breweries in Cleveland, Ohio, and the Kuebler-Strang Brewing Co. at Sandusky. It is controlled by eastern capitalists.

The Columbia Malting Co. has been incorporated with a capital of \$200,000, and will erect a malt house in South Chicago, Ill. Edwin A. Graff, a maltster of Pittsburg, Pa., is president, while H. H. Davis and H. D. Graff are the other incorporators. It is expected that the plant will be completed by September 1.

The Klinkert Brewing & Malting Co., recently organized at Superior, Wis., has been incorporated with a capital stock of \$25,000. The officers are: J. A. Klinkert, president; F. Pabst, vice-president; E. L. Klinkert, secretary-treasurer. A full equipment of brewing and malting machinery is being placed, and the plant will be ready to start soon after April 1.

FARMERS WANT STATE INSPECTION.

Ohio grain dealers are protesting against the passage of a bill providing for the establishment of a state grain inspection department, and the Michigan dealers will be in the same position if the farmers of the state have their way. At the third annual round institute which the farmers held at Agricultural College, February 25, the following resolutions were adopted:

Whereas, It is the opinion of the farmers in attendance at this institute, comprising representatives from nearly every county in the state, that the present system of grading its grains and seed crops is working injuriously to the interests of producers, and has greatly damaged the reputation of Michigan's grain crops; it is therefore hereby

Resolved, That it would be of great financial benefit to the grain growers of this state, add much to the reputation of Michigan's grain crops, and aid in improving their quality, to have a system of inspection by state officials which will insure to the grain grower proper remuneration for the quality of the grain he produces.

Resolved, That we earnestly protest against the present system of mixing and degrading our grain so as to rob the producer of his due reward, and advertise him as a grower of grain of such poor quality that it brings only the lowest prices in the markets of the world, and ask that we be relieved from a system which compels us to pay for the cost of degrading ourselves.

Resolved further, That in behalf of the farming interests of the state we respectfully urge upon the Legislature prompt and effective legislation to remedy the grievance complained of.

Resolved, That a committee be appointed by this institute to present these resolutions to the Legislature of the state at its next meeting, and urge that the necessary legislation to this end be enacted at as early a date as possible.

..Points and Figures..

Some impressionable poet out in Nebraska shouts "All hail, King Corn!" He evidently has had no experience with hail or he wouldn't invite the destruction of the corn crop like that.

Every Illinois grain dealer should make it a point to attend the meeting of the Illinois Grain Dealers' Association at Chicago, March 17 and 18. All regular dealers will be welcome.

Anti-option legislation in Germany has reacted on the Agrarians who enacted it in the hope of helping grain prices. The prices of cereals in Germany advanced only 10 marks per ton during 1897, against an average advance outside of Germany of 35 marks per ton.

The wheat receipts at Tacoma, Wash., in February were remarkable for the large increase shown over the corresponding month last year, there being nearly 800 more cars received in February this year than last. The number of cars received was 845 against 62 last year.

According to the report of Harbormaster Jacobsen, the exports of wheat from the port of Tacoma, Wash., to the United Kingdom, for the month of February, were 311,986 bushels, valued at \$239,546. The total value of Tacoma's exports for the month was \$1,215,969.15.

The exports of rye from the port of Baltimore, Md., have grown to very large proportions. While in 1896 the exports from the port amounted to only 994,460 bushels, in 1897 the exports aggregated 3,195,974 bushels. That is an increase of more than 300 per cent. in the comparatively short period of twelve months.

It is said that in some places in South Dakota, toward the northerly line, farmers have found it profitable to sow a mixture of wheat and flax, frequently one-third flax and two-thirds wheat. They get good returns from this mixture as the yield is heavy, and the grain can be separated at a light cost per bushel.

Traffic officials of the corn belt roads report that the movement of corn is now larger than for many years. It is more than three times as great as at this time last year. There seems to be no limit to the amount to move. The only trouble is that rates are so badly demoralized that there is little profit in handling the freight.

Somebody has taken the trouble to figure that Rush County, Kan., shipped 1,400,000 bushels of wheat in 1897. At 80 cents per bushel this would amount to \$1,120,000, and the population of the county being about an even 5,000, it would average \$200 per capita, or \$1,000 for every family, at an average of five members.

To encourage the cultivation of tame grasses, clovers and forage plants in the Northwest, the Great Northern, Northern Pacific and Soo railroads have announced a reduction in freight rates on such seeds of one-half tariff rates, between stations on their lines in Minnesota and North Dakota, effective from March 1 to June 30.

The large arrivals of grain, so far this month, are due to movement, such as is common at this season of the year. There is a small amount of wheat in country elevators that it is desirable to bring here before April. That is supplemented by sales from the farm, just before the wagon roads break up in the spring.—Minneapolis Market Record.

The Texas Stockman says: The wheat acreage in Texas this year was never greater, and prospects, so far, for the coming crop were never brighter. This will doubtless be a banner wheat year for Texas, and if prices should hold up to anything like present figures the Texas wheat farmer will not even talk to a miner from the Klondike.

Horner & Ross, a firm of Burr Oak, Kan., recently offered a prize for the best twenty ears of corn that should be sent them, the corn to be sent to the Omaha exposition. In all 400 samples were received and the 20 ears which were awarded the prize weighed 27 pounds and 4 ounces. None of the lots received weighed less than 20 pounds.

GRAIN STOREHOUSES.

[From a paper by William G. Wales read before the British Society of Engineers.]

In America the floor granary is the exception rather than the rule, but there grain is classified or graded, and the granary, or grain elevator as it is called in that country, may be said to be like a discount bank. Grain may be deposited at Chicago one day, and the next day the same quantity and quality may be drawn at New York. In this country little has been done in the way of silo building; perhaps this is due to the conservatism of Englishmen, and also to the fact that dock companies and other authorities often receive a number of small parcels of grain, and, there being no universal classification, this necessitates the storing of each cargo separately.

The advantages of the silo system are: freedom from the risk of fire, greater storage capacity on a given area of ground, economy in building, economy in handling the grain when delivering into sacks, railway wagons or carts, and also economy in turning over grain for ventilation. The ventilation or turning of grain is accomplished by discharging it from the bottom of the silo and conveying it up an elevator back into the same silo, or (better) into another silo. Another altogether different system of ventilating is to provide the silos or bins with two bottoms, the upper one having a number of holes through which a strong current of air is forced, which passes through the grain to the top, thereby cooling it and bringing it into better condition.

The economy in building a silo granary is apparent when it is considered that very nearly the whole capacity of a silo granary is used; but in the case of a floor granary a great amount of the space between the floors is wasted, or, to put the case in figures, the storage capacity of a silo granary to that of a floor granary is three to one. Silos are built either of timber, iron, brick, or of iron framework filled up with cement. Timber silos are light and strong; they are bad conductors of heat, and are capable of imbibing moisture from the grain; which are advantages. The objections to timber as a building material are its inflammability; it is subject to dry rot; and it is not easy to renew a defective part. Iron, in the form of sheets, as a material for building silos, is advantageously used for cylindrical bins, whereby stability and safety from fire are obtained. The disadvantages of iron are that it is a good conductor of heat, and therefore, should the grain get hot in one bin, the surrounding bins are soon affected; also, it does not imbibe the moisture of the grain, which condenses on the sides of the silos, and thereby spoils the grain coming in contact with it. Brickwork is a good material to withstand fire, and takes up moisture to a certain extent; but the walls have, of necessity, to be rather thick to insure stability, and so they take up space. Sometimes partition walls are made of iron framing with wirework filled in with cement. Such walls possess the advantages of brickwork, but do not imbibe moisture to the same extent.

The form of silos in plan is either circular, square or hexagonal; the shape adopted should be governed by stability, utilization of space, and material of which it is constructed. The hexagonal is perhaps the most common when brick or cement is the material used; square when of timber. Another consideration in the design of a bin is the form of its bottom. The most usual forms are the pyramidal or conical, although they have the disadvantage of not discharging the grain which lies in the angle formed by the walls and the base of the bin, and so, when turning the grain into the same bin, in order to ventilate it, a quantity of grain is never turned at all. Another plan is to make the base horizontal, with several outlets.

By far the greater number of granaries in the United Kingdom are built on the storey and post plan, the average distance between the floors being about 9 feet. In order to keep the grain in good condition, heavy grain is laid in heaps, usually not more than from 3 to 4 feet high, and light grain from 5 to 6 feet. This necessitates a great waste of storing space, and in addition to this waste the

heaps have to be separated by gangways, in order to keep various consignments apart. In order to preserve grain and ventilate it, a permanent draft is insured by such buildings being provided with a large number of windows. Grain in these warehouses is usually turned by hand if heating occurs; but a warehouse may easily be designed to ventilate the grain, as in the case of silos, by means of conveying machinery and shoots. These granaries are often used for other purposes, and for storing grain in bags, which advantage is not to be had in a silo granary.

There is another system of storing grain, which, so far as the author can learn, is in use only at the Millwall Docks, London. The system in vogue there is to store grain in specially constructed trucks or wagons, somewhat similar to open railway trucks. These bins or wagons are covered with tarpaulins, which are laid over a crossbar between the two ends of the truck. At the sides of the wagon are holes through which delivery of grain is made. The trucks, when full, hold about 20 tons of grain, and are run onto sidings or under sheds. When delivery is required to be made, the trucks are run onto a siding, alongside which runs a railed road on a lower level, which allows a sufficient height for the grain to be discharged into sacks on a weighing machine or into another railway wagon.

This system of storing grain in movable bins enables the delivery and receipt of grain to be made at any convenient siding in the docks, instead of being confined to the limited space round a granary; but it must be remembered that the trucks cover a very large area of ground compared with that of a granary. Roughly speaking, a silo granary will store 5.25 quarters (of 8 bushels each) of grain per square foot of ground covered; a floor granary, 1.75 quarters; while a grain truck will only store 0.75 quarters per square foot. The cost of a silo granary may be taken as 6s. 6d. per quarter of storage capacity, that of a floor granary 13s. per quarter, while that of a grain wagon will be 8s. per quarter, exclusive of ground rent.

GRAIN TRANSFER CHARGES AT BUFFALO.

The lake carriers and canal boatmen have stirred up so much of a fuss over the extortionate transfer charges levied upon grain passing through New York grain elevators that the elevator pool at Buffalo has finally become scared. The New York Legislature is considering a number of bills for the relief of the canal boatmen and the grain trade. Some of the bills provide for the regulation of the terminal elevators, and if they become laws the elevators will have to be content with the present legal rate.

The present law provides for a reasonable transfer rate, but the elevator men, by declining to receive grain for transfer, escape the regulation and charge $\frac{7}{8}$ of a cent per bushel, which any elevator man will admit is a fair sample of robbery.

The lake and canal interests are making a determined assault on transfer and elevator charges at Buffalo and hope to break up the elevator pool. William J. Connor has the contract from the Lake Carriers' Association for shoveling the grain, and he is demanding a reduction of the steam shovel charges from \$1.35 to \$1 per thousand bushels. Some of the elevator owners wish to grant this, but the pool refuses. It is understood that bills will be presented in the Legislature at Albany fixing steam shovel charges at only 25 cents per thousand bushels, and elevator charges at $\frac{1}{2}$ cent per bushel.

In order to disarm the friends of fair rates the members of the pool have given out the report that internal dissensions have already brought about its disruption. To give proof of this one of the members of the pool has announced a cut in transfer charges. The announcement has been made by the manager of the Kellogg Elevator that his rate for transferring grain, with five days' storage, after April 1 will be $\frac{1}{2}$ cent a bushel. If the state Legislature adjourns by that time peace will be declared and the rate advanced to the old figure.

RECONSIGNING GRAIN AT THE THROUGH RATE.

The Trans-Missouri Freight Bureau has brought sadness to many Denver grain receivers by ordering the different lines to discontinue the reconsignment, at Colorado common points, of grain, grain products and hay, originating in Trans-Missouri territory.

The reconsignment rule gave dealers the right to ship grain into Denver from Nebraska or Colorado common points, and let it remain 30 days before shipping it to its destination, only a continuous rate being charged. This gave dealers an opportunity to have grain shipped to them to Denver, and during the 30 days reload the cars with other than the goods originally consigned. These opportunities have led up to much fraud and the devising of many schemes to swindle the railroads. The common one was to load the grain on top of several hundred pounds of groceries.

CHAFF

The Glucose Sugar Refining Co., generally known as the Glucose Trust, has declared a regular quarterly dividend of $1\frac{3}{4}$ per cent. on its preferred stock. The disbursement will amount to \$245,000.

Kansas City has fully established the claim to the title of the greatest winter wheat market in the world, says a handy little book published by the Exchange Printing Company of that city.

Four of Buffalo's large elevators have made applications for use of Niagara electric power. It is expected that the new Sturgis Elevator about to be erected will also be operated by this power.

Colorado wheat is coming to Chicago in small quantities. One firm has received some 30 cars, which it is said has been sold to millers for mixing with a hard spring variety from the Northwest.

J. H. Connell, the director of the Texas agricultural experiment station, has published a bulletin giving full directions for using carbon bisulphide in ridding stored grain of weevil and other vermin.

Recent conditions at Duluth, Minn., point to the fact that that city is becoming an all-rail shipping point. The shipments of grain have been assuming very large proportions, and it is expected this will continue.

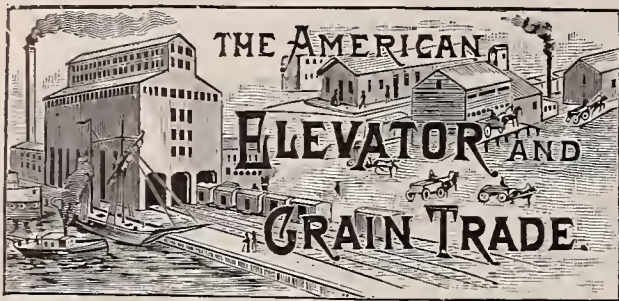
An inexpensive grain dryer of small capacity would supply the need of many country elevator men, and enable them to net a profit of 4, 5 and 6 cents a bushel on damp grain as well as the grain hospitals at grain centers.

It is estimated, says the Bloomington Pantagraph, that there are 2,000,000 bushels of corn within five miles of Tolono, Ill., which, at the present price, would bring over \$500,000. But much of this is 50-cent corn, some of which has been held five years.

The Montreal Trade Bulletin recently reminded the Canadian Pacific Railway Company officials in a forcible editorial of the company's unfulfilled contract to equip its elevators at Montreal with marine legs and loading spouts on the water side. The Canadian Pacific is not accustomed to doing anything which does not promise a profitable return, and will not do otherwise except when forced.

A novel but effective method of putting a stop to the depredations of a hay thief has been resorted to by a farmer near Watertown, S. Dak. The owner lay in wait until the thief started off with the load, when he quietly slipped up behind and applied a match. The thief had barely time to jump off and save his horses, and left behind a burned wagon. However, this seems like a case of swallowing the spoon along with the medicine.

We have received from Geo. H. Morgan, secretary of the Merchants' Exchange of St. Louis, the "Annual Statement of the Trade and Commerce of St. Louis for the year 1897." It is a neatly printed and bound pamphlet of some 300 pages, prefaced with portraits of all the presidents of the Exchange from 1862 to 1897. It contains a list of members of the Exchange, and gives much interesting and valuable information touching every branch of industry in that city.



PUBLISHED ON THE FIFTEENTH OF EACH MONTH BY

MITCHELL BROS. COMPANY
(INCORPORATED.)

OFFICE:

Howland Block, 184 and 186 Dearborn St.,
CHICAGO, ILL.

A. J. MITCHELL, - - - Business Manager.
HARLEY B. MITCHELL, - - - Editor.
CHARLES S. CLARK, - - - Assistant Editor.

Subscription Price, - - - \$1.00 per Year.
English and Foreign Subscription, - - - 1.50 " "

ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching persons connected with this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., MARCH 15, 1898.

The politicians have again proposed amendments to Washington's grain inspection law. If they would but stop tinkering for a time the trade would have an opportunity to determine what changes are needed.

If the Commercial Exchanges would stop all trading in "puts" and "calls" and stick to futures they would establish a higher standard of honor for their members and raise their organizations in the estimation of persons outside.

Regular grain dealers will be welcome to attend the spring meeting of the Illinois Grain Dealers' Association, program of which is published in this number. The convention occurs at a time—March 17 and 18—when it will be easy for every dealer to get away. None should miss it.

Some of the steel storage tanks put up by country boilermakers for storing grain have changed so in form since put into use that their own builders would not recognize them. It is the old story of inexperienced builders and cheap construction. Elevator men will learn some day that the cheapest is never satisfactory.

So many modern cleaning elevators are being erected and equipped with improved facilities for clipping and cleaning oats that it would seem proper the consumer should be given an opportunity to profit by it. If the clippings and screenings were not remixed with the oats they would, of course, be far more valuable and should grade higher. The practice now in some clipping houses is to send all the clippings, screen-

ings and sand back to the oats, because they are required to deliver the same weight as received. The car would contain just as many bushels of oats, freight would be paid on oats only and the receiver would have superior grain.

Geo. F. Harding of Chicago has in an open letter asked the prosecuting attorney of Cook County to proceed against a number of the prominent individuals connected with the Glucose Sugar Refining Company, the so-called glucose trust, stating that he has proof of their violation of the Illinois anti-trust law. The proof, he says, is in the evidence in the case of Harding and others against the American Glucose Co., now pending in the Circuit Court of Peoria County.

Not long ago it was reported that the farmers of the spring wheat district would greatly increase their wheat acreage this season, and now the reports come that they have no seed wheat in some sections, having disposed of all the wheat they held. The wily farmers of the Northwest have learned by experience that the elevator companies will not let them want for seed wheat, so have taken advantage of it to dispose of all of their wheat at the high prices prevailing. Much of the seed wheat bought or borrowed in former years has never been paid for or returned, and probably never will be.

The courts have been called upon to unravel a peculiar case in which the Kansas City Board of Trade is concerned. Nine years ago a Kansas City concern failed, and among the claims against it was a note, which the holder refused to part with at the 50-cent basis offered. He bided his time, which only came the other day, when he found that he owed the debtor, in the course of business, enough to cover the old note, and accordingly he declined to pay, holding that the note was an offset. Thereupon he was threatened with expulsion for refusing to submit the case in the regular way, and got out an injunction against the Board. He claimed that there was "nothing to arbitrate."

Our esteemed contemporary, Rough Notes, of Indianapolis, devoted to the praiseworthy purpose of disseminating information about insurance, has established a department in which are handled "perplexing questions arising from the adjustment of losses." The first question propounded in its new department was a sock-dolager. A farmer took out a policy on "hay, grain, straw and ground feed." After policy had run a while the farmer got permission from the company to build a silo, and the policy was indorsed "to cover thereon when completed." A couple of years afterward the buildings burned, silo and all, and the farmer made a claim on the ensilage in the silo, under the item of "hay, etc." Was the claim legitimate? asks the correspondent. And why not? Did the company suppose the silo was erected to store hardware or raw material for wind puddings? What are silos usually erected for, if not for ensilage? It is a mighty good thing for the untechnical public that courts and not companies construe policies. Technicalities in insurance policies don't go with courts, as a rule.

REGULATION FOR OHIO GRAIN DEALERS.

It is reported that the Cincinnati Chamber of Commerce has discovered a loophole which will permit its members to escape the rigorous regulations of the nonsensical law proposed by Representative Snyder of Green County, and that therefore the Chamber will withdraw its opposition to the bill. This is a repetition of its selfish course in the fight against the grain-lester bill two years ago. As soon as the Chamber found the bill affected only sales where the producer was seller it withdrew from the fight and left the regular grain dealers of the country to the mercy of the politicians and the farmers.

It is to be regretted that the regular dealers of the state have not a well-organized association to go to Columbus and kill the bill. It provides for a taxation and regulation of country elevator men, which is uncalled for; in fact, if its provisions are carried out, it will drive many of them out of business. It is time the dealers of the state cast off their lethargy and turned their social organization into a business association, or, better still, retain the social features and work for the advancement of business interests common to all members. Ohio has at least 800 regular grain dealers and they can well afford to support a working association. It is much cheaper to prevent the enactment of unjust laws than to have them declared unconstitutional, and Ohio dealers would find it far more profitable to organize before they are confronted by greater difficulties, than to wait until an organized fight is absolutely necessary to maintain their business life. They have grievances enough now and the present is the time to organize.

THE ELEVATOR SITUATION AT BUFFALO.

It seems, after all, that there is to be fun in Buffalo this spring. The Kellogg elevator announces that its rate after April 1 will be $\frac{1}{3}$ of a cent per bushel for transferring grain, including five days' storage. This is a pretty big drop from $\frac{1}{2}$ of a cent, the pool's rate. Just what this presages it is hard to tell. Last year the Export and Electric elevators, both outside the association, made money; barrels of it, rumor says. With five elevators working outside the pool, including the great Northern, prospects did not look so bright for big profits this year as ordinarily, especially as the owners of the non-pool houses could afford to stay in any sort of a game. Perhaps this cut is to test their staying powers. Of course it will have to be met, although some of the elevator owners say they will not try to do so. If the war, if it really is war, does not succeed in driving the outside elevators into the pool, the "episode may be considered closed." The elevators that are able to stand alone will get together, agree to obey the law and go after business. The old hulks that have to be propped up to be kept from blowing over will gradually tumble over or burn, and Buffalo and the country be rid of the iniquity of the pool.

Meanwhile the canal men evidently don't trust the course of events. They have sent a delegation to Albany to urge the passage of the bill providing for state ownership of elevators

and oppose the Foley Bill and all other proposed legislation looking to anything but state ownership of elevators. They intend to adopt the same tactics that succeeded in 1888, when they aroused the whole state to the fact that the elevator pool was the only beneficiary of the canal, absorbing all its benefits because it absorbed all the profits. This year will develop something in Buffalo and on the Erie, sure.

THE NEBRASKA MAXIMUM FREIGHT RATE CASE.

The United States Supreme Court has handed down the expected decision in the case of the Nebraska maximum freight rate law. The case was argued last May and the decision just rendered holds that the law is unconstitutional. The act was passed by the state legislature about five years ago and of course fixed the rates only on business within the state. The railroads resisted the law and obtained an injunction in the United States Circuit Court when the state officials attempted to put the law into effect. The contention of the railroads was that the law sought to "deprive them of their property without due process of law," thus bringing the case within the cognizance of the United States Supreme Court.

The court sustained this plea, which was in effect, that the rates were unreasonably low. Justice Harlan, in delivering the court's opinion, held that certain principles must be regarded as settled. These were, first, that a railroad corporation was a person so far as the constitutional provision is concerned, declaring that no state shall deprive any person of property without due process of law. Second, that an enactment which established rates that would not permit a just compensation would "deprive of property without due process of law." Third, that while rates for transportation within a state are primarily within the state's determination, the fact whether such rates are so low as to deprive of property without due process of law does not conclusively rest with the legislature or with state authority.

As to the basis on which the reasonableness of rates should be determined, the court held that it must be the fair value of the property being used for the purpose. As to whether the value should be computed at original cost, or cost of duplication, a point argued at length when the case was heard, the court held that both should be taken into account, together with cost of permanent improvements, the sum required to meet operating expenses, and the amount and market value of stocks and bonds as compared with original cost. The record showed, the court held, that under the terms of the legislative act most of the roads would not have earned operating expenses, which nothing in the record proved to be unnecessarily large.

Notwithstanding the comment by some papers, there is nothing sweeping or radical in the decision. The power of the state to make rates is not denied, though it is suggested that a commission ought to do it. Reading between the lines it is easy to see that the thing which influenced the court the most was the fact that the rates established by law would not have enabled the roads to pay operating expenses, which are independent of cost of construction,

bonds, stocks, etc., upon which the learned counsel wasted a good deal of argument at the hearing of the case.

COUNTRY SHIPPERS AS SPECULATORS.

No doubt the inability of the country grain merchant to refrain from speculating on the Board of Trade greatly interferes with his success as a grain dealer, and often brings about his failure. All probably find it necessary at times to hedge against their holdings and such a transaction is generally a safeguard, but few stop with such sales, and are as often on the other side of the market.

The country dealers are in an advantageous position to conduct a cash grain business, but not a speculative business. They are influenced too much by local conditions, the only ones they really know much about. They receive all kinds of contradictory reports, but nothing which is reliable enough to be a safe guide for them in buying or selling. If their margin gets low, they may be sold out, as often occurs.

The number of country elevators held for sale by city commission men shows that the average country dealer is not a successful speculator. He overlooks his opportunity to improve the market value of his grain so as to realize a profit of four to six cents and seeks to make a big thing by wild speculation. It is unfortunate, yet true, that ten failures are caused by speculation where one is due to other causes ordinarily met with in the grain business. If the country shippers would confine themselves to hedges against actual holdings they would have a safer business than any other class of merchants.

TAGGING CARS WITH WEIGHT OF GRAIN.

The marking of the weight and kind of grain on cards, together with car initials and number, and tacking same to the car doors, is undoubtedly a good practice in some parts of the country, very much depending upon the weighing department at the terminal market to which grain is shipped. If every market had a weighing department as carefully managed as the Minnesota grain centers then would the country shipper be justified in sending cards bearing the weight of his grain, but unfortunately for the trade it is not so. Then, too, the cars are not all unloaded at the grain centers; oftentimes the grain is rebilled to points far distant, where it is weighed and unloaded by the buyer.

Minnesota has a law requiring shippers to send a statement of weight with each load, and in many other parts of the country it is the practice of shippers to do so voluntarily, the purpose being to give the weighman at destination an opportunity to correct his errors (should he make any) before the identity of the load was lost. He also has an opportunity to discover errors which the shipper may have made and to accept shipper's weight in case the amount reported is less than his own. If the weight reported is more than gets into the scale hopper at destination, the weighman must conclude immediately that something is wrong. Many

weighmen will institute an investigation if the weight reported differs from their own, and no doubt often will be able to trace a shrinkage to a leaky car or a broken seal.

Some country shippers who have tried tacking cards bearing weights to each load have stopped it after a time, because they say they were convinced that the information was used against them oftener than for them. The destination weight never exceeded, but often was less than weight at point of shipment, while their records showed that when they did not tag car with weight of contents the destination weights occasionally exceeded their own.

The only solution of the weighing problem is for carriers to have weighing grain into as well as out of cars supervised by one of their own representatives and then issue clean bills of lading.

REGULATING OPTION TRADING ABROAD.

The cable brings the news that the attempt to regulate option trading on the Paris Bourse and Produce Exchange has failed. The trouble arose from the impossibility of determining whether sales were made in good faith or for the sole purpose of speculating, for the law did not contemplate the suppression of sales for future delivery, made in good faith, but aimed to prevent purely speculative deals where delivery was neither contemplated by the seller nor desired by the buyer.

Nevertheless, it seems that the idea of taxing option contracts and endeavoring to prevent forestalling will not be given up. At the recent meeting of French millers it was voted as the sense of the assembly that future trading should be suppressed altogether. This implies that more rigid regulations than those already resorted to must be put in force. Just how they will go about it remains to be seen. After a year's trial the German bourse law is a confessed failure. It is hinted that the government will relax its efforts to enforce it, because the Agrarians will not permit a modification of the law and the Government knows that the law has totally failed to accomplish what was expected. Statistics show that during the whole of 1897 the prices of cereals increased only 10 marks (about \$2.50) per ton, while at all other grain centers in Europe the price advanced three times that much.

If the rigid regulations of the bourse law failed to produce good effects in Germany, the public will be a little curious to know how France will handle the problem. Meanwhile the rest of the world is learning from these legislative experiments, conducted at the expense of Germany and France.

The Argentine's exports of wheat last year amounted in all to only 94,289 tons, or, say, 3,000,000 bushels. Of this amount Brazil took almost one-half. Adding the flour also taken by Brazil and that country took substantially two-thirds of the exported wheat from the Argentine during 1897. The Argentine exports of corn amounted to 374,439 tons. Of this amount Brazil took 101,068 tons and Great Britain 69,255 tons. Belgium and France took the greater part of the remainder.

EDITORIAL MENTION

Nebraska grain dealers are awakening. The state association held a two days' session at Lincoln, March 10 and 11.

Even the regular grain dealers of Maryland are organizing. What can be the matter with the dealers of Minnesota, Ohio, Michigan and Indiana?

The German Agrarian party is demanding an increased and virtually prohibitive tariff on grain. The Agrarian League has embodied the demand in its platform.

A bill has been introduced in the Iowa Legislature to give the railroad commissioners authority to locate private elevators and warehouses along railroad rights of way in the state.

The Kansas Grain Dealers' Association has a traveling representative on the road soliciting new members, and he is rapidly increasing the membership. The Association will soon have over 300 members.

If the country elevator men were not generous enough to build elevators the railroad companies would have to build them or permit cars to stand on track until loaded to capacity. It would never do to handle the grain in sacks as is done on the Pacific Coast. It is too expensive.

Another set of figures is given by Dr. David Kinley, professor of economics in the University of Illinois, as to the cost of raising corn in this state. He reckons up the amount at 19.1 cents per bushel. He bases his figures on replies from 300 farmers, covering about 16,000 acres. The professor charges up everything against the corn that you can think of except piano tuning.

The railroads have agreed to give effect to the recent Interstate Commerce decision ordering them to cease discrimination against Milwaukee in favor of Minneapolis and other points, and the Cream City is looking forward to an old-time activity in the grain trade. The amended rates have not been made public yet, but it is fair to assume, in the light of railroad history, that they will proceed to bandage Milwaukee's black eye with a pound of flesh taken from next Minneapolis' heart.

The case against the Kansas City Live Stock Exchange, which was appealed from the United States Circuit Court, will soon be passed upon by the Supreme Court. It will be remembered that the decision of the Circuit Court held that the Exchange's rules were an infraction of the Sherman Anti-Trust Law. Both the New York Stock Exchange and the Chicago Board of Trade have felt that the issue is of sufficient importance to have counsel look into it. If the

decision is upheld its application is broader than the case at issue and will cover labor unions, industrial societies, etc.

The Grain Dealers' Union of Southwest Iowa and Northwest Missouri has placed a traveling representative on the road and he is securing a number of new members. The Union will meet at Council Bluffs, March 17, for the annual election of officers. Verily, the cause of organization is not waning in the grain trade.

The gulf routes have carried large quantities of grain this winter, and with the improvements proposed to be made during the coming summer they will be in a better position than ever to carry grain next winter. These routes are growing in favor with grain exporters, and each season we have a surplus of grain in the Southwest a farther increase may be expected.

The Farmers' Institute of Frederick County, Maryland, has denounced the grain dealers' association of that state, which was to be expected. The farmers are firm believers in organization for themselves, but just as firmly opposed to the members of any other line organizing. For pure, unadulterated selfishness the farmer generally takes everything in sight.

Ohio hay dealers as well as grain dealers will find it necessary to keep a close watch of the state Legislature. Bucolic statesmen seem to be determined to interfere with all lines of business and by some unknown accident have introduced a bill providing that it shall be unlawful to place good and bad hay in the same bale or to put any foreign matter in the bale.

Two years ago Washington sacrificed most of its wheat crop to its ancient method of marketing the crop. It was wet and in the absence of modern grain elevators and drying facilities it remained wet until spoiled. When the old sack system is discarded and modern elevators erected the Washington dealers will be in position to take better care of the grain.

At the recent session of the Interstate Commerce Commission at Cleveland, J. G. Simmons, a grain dealer, testified that he had to pay car service charges on all his shipments and receipts and that on many occasions the charges for cars held overtime amounted to more than the regular freight rates. The discrimination complained of was that other dealers paid no additional charges for switching or holding cars overtime.

New York is beginning to stir herself in the matter of her export trade. The rapid growth of other ports in the grain export business has spurred her commission men and steamship interests to action, and the result is that an organization has been formed known as the Association for the Advancement of the Interests of the Port of New York. Thos. A. McIntyre, President of the Brooklyn Wharf and Warehouse Co., was chosen president. Among the purposes of the Association are the deepening of the channel to the sea, the enlargement of the canals and the reduction of port and terminal

charges. There seems little likelihood of anything being done toward enlarging the canals at present. The appropriation is exhausted and a new appropriation can only be had by a vote of the people. And meanwhile some of the people are getting tired and want to give the Erie Canal to the Federal Government.

Attaching draft for full value of grain to bill of lading is not always the true course of wisdom. A dealer who had made several overdrafts against inferior grain recently repeated the offense, and his grain was permitted to stand on track. Demurrage and expenses of disposing of it through another channel wiped out more than his profit at the bottom price ruling on day of arrival.

The Peoria grain dealers are having a discouraging fight with politicians who wish to get charge of the grain inspection department of that city. It does seem too bad that the politicians cannot get enough official pap to satisfy them. If their appetite continues to grow it will be necessary to adopt paternalism in its broadest sense in order to appease them.

It has grown into a proverb, almost, that "a new use for corn is found every year." Mixers have been running corn flour in wheat flour to such an extent that millers are endeavoring to get a bill through Congress to regulate the business, and now the linseed-oil men complain that "corn oil," which is one of the by-products of the glucose factories, is being used to adulterate the linseed product. It is said that 25 per cent. of it can be used without being easily detected or deteriorating the article to a marked extent. If this sort of thing keeps on you can divide the American people into two classes: those who produce and handle corn and those who use it. There are already 32 by-products of glucose making, all of which are valuable and utilizable.

According to the report of the Bureau of Statistics, breadstuffs exported during the eight months ending February 28, 1898, were valued at \$205,416,773, against an amount valued at \$138,003,128 for a like period ending February, 1897. The value of the exports for the month of February was \$21,898,172, against \$15,049,773 in February, 1897. The exports of the various grains for the eight months ending February 28, compared with the same period of the preceding year, were as follows: Wheat, 101,445,562, against 64,809,079 bushels; corn, 120,557,363, against 110,446,988 bushels; oats, 46,232,667, against 23,599,243 bushels; barley, 9,248,345, against 14,595,169 bushels; rye, 9,358,889, against 5,300,211 bushels. The amounts exported in February, compared with February, 1897, were as follows: Wheat, 6,928,296, against 3,770,851 bushels; corn, 18,295,021, against 22,242,050 bushels; oats, 5,143,928, against 1,897,041 bushels; barley, 608,454, against 736,257 bushels; rye, 1,311,337, against 656,546 bushels; wheat flour, 1,363,156, against 974,406 barrels; corn meal, 79,954, against 53,109 barrels; oatmeal, 6,842,027, against 3,959,135 pounds.

Trade Notes

The Maxwell Gas Engine Co. has been formed at New Castle, Pa.

F. J. Weber, it is reported, has purchased the Root Co.'s foundry at Connersville, Ind.

The Kansas Grain Separator Co. has been incorporated at Kansas City, Mo., with a capital stock of \$100,000.

G. M. Robinson, president of the Charter Gas Engine Co., Sterling, Ill., accompanied by Mrs. Robinson, has gone for a two months' outing in California.

The Paine-Ellis Grain Drier Co., Milwaukee, Wis., has contracted to put one of its grain driers in the malting house of the Wm. Gerlach Co., Milwaukee. Other recent orders are from Oregon and the West.

The Honstain-Rosbolt Co. at Minneapolis, Minn., has been incorporated to manufacture seed and grain separators. The incorporators are: G. T. Honstain, Julius Rosbolt and R. I. Duvall. The capital stock is \$100,000.

The Barnett & Record Co. of Minneapolis has been getting some big contracts. The latest is the contract for rebuilding the Isaac Harter Company's mill and elevator at Fostoria, Ohio, which were burned Christmas eve last. This is one of the largest establishments in the winter wheat country.

Seeley, Son & Co., Fremont, Nebr., have been keeping busy right along. At present they are overhauling the elevator of the Trans-Mississippi Grain Co. at Manrice, Iowa, and have a contract with same company for a new one of 50,000 bushels' capacity at Odebolt, Iowa, which will be got under way at once.

The Columbus Machine Co. of Columbus, Ohio, is very busy in its gas engine department, having about 50 engines of various sizes now in process of construction. The company is shipping engines as far south as Mexico, and has just installed a 40-horse power engine for an electric light plant in the city of Columbus.

The New Era Iron Works of Dayton, Ohio, recently sent out from its shops what is claimed to be the largest single cylinder gas engine built in the United States. The engine tested 115 actual horse power. The company's shops are running night and day, and a large number of the "New Era" engines are being installed in flour mills and grain elevators.

The London Times notes that a new process for artificially extracting moisture from wheat was tested recently in Berlin. Mr. Yerburch, a member of Parliament, sent fifty "quarters," or 400 bushels, of English wheat, to be submitted to the process. The result, it is said, was that 6 per cent. of moisture was taken from the wheat, which was a very dry sample, in excellent condition. The principle employed is drying under a vacuum, which has already been applied to some other products.

D. A. Robinson, Minneapolis, has just completed a large contract. This was the equipping of the main line of the Great Northern Railroad from St. Paul to Seattle with his patent coaling stations and coal chutes. There were 21 of these stations in all. The idea was to combine expeditions handling with economy of cost. Gasoline engines were used, which is probably the first time this kind of motor has ever been used for such a purpose. It is claimed that the Great Northern is handling the coal for its locomotives at a less cost than any road in the country.

The Weller Mfg. Co. of Chicago, Ill., has engaged H. G. Bushnell to represent its interests in the Northwest, with headquarters at Minneapolis, Minn. Mr. Bushnell has been long and favorably known to the trade, and under his management the Northwestern office is doing a very brisk business. The company has also established an eastern office at 339 Fifth Avenue, Pittsburg, Pa., in charge of W. H. Roberts, formerly general manager of the Roberts Mfg. Co. of Beaver Falls, Pa. Among the

new contracts which the Weller Company has received is that of furnishing the power transmission machinery for the new Eckhart & Swan mill at Chicago.

The Foss Gas Engine Co. of Springfield, O., has removed its offices and works from the old location on Main Street to new and larger quarters at the East Street shops. The new offices are large and conveniently arranged, and the working floor space is four times that of the old location. The new factory is 304x57 feet, and they have here four floors, of which two are occupied. The company is shipping about a carload of engines a month to California, the majority of which are for the mining trade. In connection with this trade the company is getting out a 1 to 3 horse power engine, in combination with a pump for pumping water out of mines. Among recent contracts for large engines was one for a 100-horse power double cylinder engine for the United States Glass Company for its plant at Gas City, Ind. This engine is now in process of construction, and is the fourth engine the Foss Company has installed in this plant.

DIFFICULT TO LOCATE RESPONSIBILITY FOR REBATES.

According to the Railway Review it is decidedly difficult to locate the responsibility for giving rebates. It says: If in order to secure conviction because of a reduction in rates by the device known as paying rebates or the refunding of a portion of the legal transportation charge at some time subsequent to its payment, it is necessary to prove that the one who pays the rebate has knowledge of the particular agreement pursuant to which the money is refunded, then an evasion of law is the simplest matter in the world. Suppose, for instance, that the president or other executive officer of a railroad company should instruct a subordinate official of the traffic department to contract certain business at whatever rates might be necessary to secure it, and at the same time or at some subsequent time should advise a superior officer of the traffic department to pay any rebate claim that might be certified to by the subordinate official in question. Such rebates would be paid in due course, but under the interpretation of the law by Judge Grosscup it would be a little difficult to locate the responsibility. The president would be exempt because of no knowledge either of the agreement to pay or the payment of the rebate on the shipments in question. The subordinate official of the traffic department would not be guilty because he had paid no rebate or otherwise violated the law. He simply had agreed that a certain thing should be done, and was even without power to enforce the agreement. The traffic official who approved the voucher, the auditor who passed it, and the cashier who paid it would alike be ignorant of its relation to the contract in question. They would simply each in turn see that it bore the proper authorization and act accordingly. It is apparent that in such a case it would be difficult to locate any individual responsibility for the violation, although it would be equally apparent that the law had been violated.

If it is so difficult to place the responsibility, then every country elevator man should be given a rebate of two cents a hundred as a loading fee. He surely merits some encouragement to continue keeping his elevator open the year around.

Joseph Leiter is paying some of the penalties that are exacted from those who achieve greatness. It would be a matter of extreme difficulty to describe the characteristics of the numerous individuals who seek his society for the purpose of getting a tip on the progress of the market or to unfold some philanthropic scheme whereby he may still further prove a benefactor of mankind. To the majority of these people he is a savior, and to touch his robe means to them a quietus from the financial ills in which they are so inextricably entangled, that it would take more than a god to put them on their feet again. Nothing succeeds like success, however, which is the reason probably that the unsuccessful would like to attach themselves to someone else's car.

SCREENINGS.

The speculators who bull the market often have to bear the losses.

Corn in the field is shocked, but when it is made into whisky it is shocking.

Few men have made a success of speculation in futures and cash grain at the same time.

Chicago bucket shops appear to be having an unfavorable season just now. Within the past week three of them have failed.

The Illinois Grain Dealers' Association will meet at Chicago, March 17 and 18; headquarters at the Saratoga Hotel, 159 Dearborn Street.

Endless belts with projecting arms or brackets are being used quite extensively on the Pacific Coast for elevating sacked grain and barrels of salt and lime.

The efforts of the Grain Dealers' National Association to induce the railroad companies to refuse to give cars to any but those shippers who have grain at the station ready to load into cars should receive the hearty support of every association as well as every regular shipper.

The public elevators at St. Louis, Mo., with their respective capacities, are as follows: St. Louis, 1,000,000 bushels; Central A, 400,000 bushels; Central B, 1,000,000 bushels; East St. Louis, 600,000 bushels; Advance, 600,000 bushels; Venice, 600,000 bushels; Merchants', 800,000 bushels; Union Depot, 700,000 bushels; Farmers', 1,500,000 bushels; Burlington, 1,300,000 bushels. Total, 8,500,000 bushels.

During the week in which the Corn Congress was held in Chicago last month, a "corn exhibit" was conducted jointly by the Decatur Cereal Mills and the Shellabarger Mill & Elevator Co. of Decatur, Ill. Many of the products of corn were exhibited, particularly corn flour, sample packages of which were distributed to everyone calling. Dainty luncheons were served which included waffles, doughnuts and other pastries made of a mixture from 10 to 50 per cent. corn flour with wheat flour.

The scoop-shovel man is finding the road to a profitable business so thorny and unprofitable that we predict that it will be only a matter of time when this species of the business leech will be as scarce as fishbones in turkey. He is now handicapped at the very outset of his career by the bad repute in which he and his followers are held by the legitimate trade. At his best, he does not intend to buy in one market a great length of time, but the knowledge of his existence is quickly spread by the various organizations among the trade, and then he falls, like Lucifer, never to rise again.

A conference of grain growers of Central Texas was held at Waco on February 18, at which the subject of rate discrimination and other evils in the trade were discussed. It was stated that corn-growers in Iowa, Nebraska, Missouri and Kansas crush the market of Texas producers because of the fact that the freight rates from the northern points enabled the distant growers to ship their corn to Texas ports in train load lots for exactly what the very much shorter haul costs the Texas farmer. The Texas Railroad Commission has been asked to furnish a remedy in favor of the short haul.

A certain class of people are still heard to inveigh against boards of trade as gambling institutions, and as a society which is detrimental to the best interests of the country at large. Did such expressions emanate from people who were qualified to speak from a knowledge of the facts, they might carry some weight among the more intelligent class of people. As it is, however, these anti-board of trade ideas come from those who have no relation with such institutions, and no ideas of the causes or objects of their existence. The only persons they influence are the soreheads who, perhaps, have run at some time or other against a bucket-shop, or who are inclined to blame anyone but themselves for their own self-inflicted evils. A good, hearty denunciation hurts no institution founded on just and right principles, however. That which it would have more greatly to fear would be to be "damned by faint praise."

RANGE OF PRICES AT CHICAGO.

The daily range of prices for cash grain at Chicago since February 15 has been as follows:

February.	NO. 2 R.W. WHT.		NO. 2 SP. WHT.		NO. 2 CORN.		NO. 2 OATS.		NO. 2 RYE.		NO. 1 FLAXSEED	
	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.
15	92½	93½	..	..	29½	29¾	26¾	26¾	48½	48¾	126½	126½
16	102½	102½	..	..	29½	30	27	27	50	50	127½	127½
17	106	106	..	..	29½	30¾	27	27	50	50	127½	127½
18	..	..	97	97	29½	30	29¾	29¾	49½	49½	126½	126½
19	..	..	..	..	29½	30¾	29¾	29¾	50	50½	..	..
20	..	..	..	..	..	..	26¾	26¾	50½	50½	..	..
21	..	..	..	..	..	..	26¾	26¾	50½	50½	..	..
22*	..	..	..	..	29¾	29¾	27	27¼	..	..	..	..
23	..	..	..	..	29¾	29¾	26	26	..	..	..	..
24	..	..	94½	94½	29¾	29¾	26	26	49½	49½	123	123
25	104	104	..	..	29¾	29¾	26	26	49½	49½	123	123
26	100½	101½	..	..	29¾	29¾	25¾	26½	49	49½	122	122
27	..	..	..	..	29¾	29¾	26	26	49½	49½	122	122
28	..	..	..	..	29¾	29¾	26	26	49½	49½	124	124
29	..	..	..	..	..	..	..	..	..	..	..	..
30	..	..	..	..	..	..	..	..	..	..	..	..
31	..	..	..	..	..	..	..	..	..	..	..	..
Mar.	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	29	29½	26¼	26¼	50	50	121½	121½
2	..	..	..	..	29¾	29¾	26½	26½	50	50	121½	121½
3	..	..	..	..	29¾	29¾	26½	26½	50	50½	..	..
4	105½	105½	..	..	29¾	29¾	26½	26½	50	50½	..	..
5	..	..	..	..	29¾	29¾	26½	26½	49½	49½	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..
7	102¾	103	..	..	29¾	29¾	26½	26½	49½	49½	120½	120½
8	101	101	..	..	29¾	29¾	..	..	49½	49½	..	..
9	..	..	..	..	29¾	29¾	..	..	49½	49½	..	..
10	..	..	..	..	29¾	29¾	29½	29½	49½	49½	..	..
11	..	..	..	..	29¾	29¾	29½	29½	49½	49½	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..

*Holiday.

During the week ending February 19, Prime Contract Timothy Seed sold at \$2.82½@2.90 per cental; Prime Contract Clover Seed at \$5.00@5.05; Hungarian at \$0.65@0.90; German Millet at \$0.75@1.00; buckwheat at \$0.65@0.75 per 100 pounds.

During the week ending February 26, Prime Contract Timothy Seed sold at \$2.92½@2.95 per cental; Prime Contract Clover Seed at \$5.10@5.15; Hungarian at \$0.65@0.90; German Millet at \$0.75@1.00; buckwheat at \$0.55@0.70 per 100 pounds.

During the week ending March 5, Prime Contract Timothy Seed sold at \$2.90@2.97½ per cental; Prime Contract Clover Seed at \$5.00; Hungarian at \$0.65@0.95; German Millet at \$0.75@1.00; buckwheat at \$0.55@0.70 per 100 pounds.

RECEIPTS AND SHIPMENTS AT NEW ORLEANS.

The receipts and shipments of grain, etc., at New Orleans, La., during the month of February, 1898, as compared with the same period of the preceding year, were, according to Hy. H. Smith, secretary of the Board of Trade, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	1,398,539	60,293	1,183,348	87,693
Corn, bushels.....	2,820,359	5,018,539	3,571,874	5,457,584
Oats, bushels.....	609,729	394,992	177,523	180,000
Rye, bushels.....	64,730	8,028	64,730	27,528
Rough Rice, sacks.....	..	..	..	..
Clean Rice, barrels.....	..	..	..	..
Flour, barrels.....	56,749	39,569	17,226	31,311

Following is Secretary Smith's report of the movement of rough and clean rice at New Orleans from Aug. 1, 1897, to March 1, 1898: Receipts of rough rice, in sacks, 429,419, against 373,773 for same period of 1897. Shipments, 398,004, against 356,731 sacks for same period of 1897. Receipts of clean rice in barrels, 3,308, against 6,442 for same period of 1897. Shipments, 89,776, against 88,536 barrels for same period 1897. Total stock rough rice March 1, 57,381 sacks, against 100,265 on March 1, 1897. Total stock No. 1 clean rice March 1, 11,266, against 7,245 barrels on March 1, 1897. No. 2 clean rice, 2,299, against 681 barrels on March 1, 1897.

RECEIPTS AND SHIPMENTS AT ST. LOUIS.

The receipts and shipments of grain and hay at St. Louis, Mo., during the month of February, as compared with the same period of the preceding year, were, according to George H. Morgan, secretary of the Merchants' Exchange, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	325,500	224,900	709,395	757,825
Corn, bushels.....	2,739,750	3,688,300	2,254,263	3,486,739
Oats, bushels.....	768,000	1,254,000	418,995	318,415
Barley, bushels.....	199,500	291,750	10,555	4,830
Rye, bushels.....	132,300	20,300	120,710	31,730
Hay, tons.....	11,955	16,745	3,295	7,592
Flour, barrels.....	106,350	89,465	113,726	114,788

RECEIPTS AND SHIPMENTS AT CLEVELAND.

The receipts and shipments of grain, hay, etc., at Cleveland, Ohio, during the month of February 1898, as compared with the same period of the preceding year, were, according to F. A. Scott, assistant secretary of the Chamber of Commerce, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	224,539	15,409	149,212	104,587
Corn, bushels.....	1,351,001	20,699	856,725	1,139
Oats, bushels.....	521,418	78,871	338,081	2,815
Barley, bushels.....	80,589	50,373	None.	800
Rye and other cereals...	23,617	3,954	None.	5,390
Hay, tons.....	74,750	35,530	18,050	15,890

RECEIPTS AND SHIPMENTS AT CINCINNATI.

The receipts and shipments of grain and hay at Cincinnati, Ohio, during the month of February, as compared with the same period of the preceding year, were, according to C. B. Murray, superintendent of the Chamber of Commerce, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	\$3,559	66,128	40,593	22,252
Corn, bushels.....	305,236	627,266	75,821	420,747
Oats, bushels.....	189,528	353,537	69,860	187,249
Barley, bushels.....	111,540	92,150	3,500	2,103
Rye, bushels.....	65,094	13,532	27,577	644
Clover Seed, bags.....	..	..	..	..
Timothy Seed, bags.....	..	..	..	..
Other grass seeds, bags..	..	..	..	..
Hay, tons.....	12,014	5,467	8,476	2,906
Flour, barrels.....	199,335	197,521	165,386	169,013
Malt, bushels.....	..	..	..	..

RECEIPTS AND SHIPMENTS AT MILWAUKEE.

The receipts and shipments of grain and hay at Milwaukee, Wis., during the month of February, 1898, as compared with the same period of the preceding year, were, according to Wm. J. Langson, secretary of the Chamber of Commerce, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	719,550	399,750	145,390	88,790
Corn, bushels.....	474,500	72,800	16,403	20,150
Oats, bushels.....	783,000	809,000	732,432	471,907
Barley, bushels.....	694,400	720,800	362,742	486,371
Rye, bushels.....	154,800	110,400	5,325	1,200
Grass seed, pounds.....	30,000	387,110	351,520	581,710
Grass seeds, pounds, tim..	..	..	..	..
Flaxseed, bushels.....	4,235	35,500	2,320	17,980
Hay, tons.....	1,203	1,737	..	225
Flour, barrels.....	336,140	151,600	513,555	305,269

RECEIPTS AND SHIPMENTS AT KANSAS CITY.

The receipts and shipments of grain and hay at Kansas City, Mo., during the month of February, as compared with the same period of the preceding year, were, according to E. D. Bigelow, secretary of the Commercial Exchange, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, cars.....	1,855,750	374,400	995,800	295,750
Corn, cars.....	2,091,750	2,921,800	1,155,750	1,558,500
Oats, cars.....	259,000	330,000	142,000	250,000
Barley, cars.....	5,600	..	..	..
Rye, cars.....	13,000	11,050	..	..
Flaxseed, cars.....	6,000	10,200	..	..
Hay, cars.....	8,180	8,170	1,980	4,710
Flour, cars.....	..	..	..	..
Bran, cars.....	..	..	..	..

RECEIPTS AND SHIPMENTS AT PEORIA.

The receipts and shipments of grain and hay at Peoria, Ill., during the month of February, as compared with the same period of the preceding year, were, according to R. C. Grier, secretary of the Board of Trade, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	29,400	62,400	4,800	78,200
Corn, bushels.....	1,769,450	2,581,450	544,900	1,277,650
Oats, bushels.....	873,800	1,168,650	762,750	1,184,200
Barley, bushels.....	189,400	139,900	76,300	127,300
Rye, bushels.....	7,200	10,200	600	600
Mill Feed, tons.....	1,100	255	6,135	6,614
Seeds, pounds.....	240,000	390,000	90,000	505,400
Broom Corn, pounds.....	150,000	45,000	45,000	15,000
Hay, tons.....	3,620	2,340	667	1,510
Flour, barrels.....	33,400	23,100	40,510	22,690
Spirits and Liquors, bbls..	..	..	..	..
Syrup and Glucose, bbls..	..	..	..	..

RECEIPTS AND SHIPMENTS AT TOLEDO.

The receipts and shipments of grain and hay at Toledo, Ohio, during the month of February, 1898, as compared with the same period of the preceding year, were, according to Denison B. Smith, secretary of the Produce Exchange, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	356,771	117,658	134,017	145,247
Corn, bushels.....	1,134,040	2,007,610	1,265,700	1,144,914
Oats, bushels.....	121,198	49,700	201,000	421,195
Barley, bushels.....	..	..	..	..
Rye, bushels.....	13,931	6,321	50,500	7,400
Clover Seed, bags.....	..	..	..	..
Flour, barrels.....	2,842	3,337	18,122	27,204

RECEIPTS AND SHIPMENTS AT DETROIT.

The receipts and shipments of grain and hay at Detroit, Mich., during the month of February, as compared with the same period of the preceding year, were, according to F. W. Waring, secretary of the Board of Trade, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	262,502	114,721	130,530	17,565
Corn, bushels.....	295,041	65,678	231,692	39,548
Oats, bushels.....	194,067	68,888	12,574	14,615
Barley, bushels.....	183,602	67,568	..	..
Rye, bushels.....	30,193	55,847	37,281	54,250
Hay, tons.....	..	..	..	..
Flour, barrels.....	25,875	9,100	21,250	4,250

RECEIPTS AND SHIPMENTS AT MINNEAPOLIS.

The receipts and shipments of grain and hay at Minneapolis, Minn., during the month of February, as compared with the same period of the preceding year, were, according to G. D. Rogers, secretary of the Chamber of Commerce, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, bushels.....	4,679,630	3,132,030	791,360	647,450
Corn, bushels.....	378,050	125,440	133,100	54,560
Oats, bushels.....	758,530	976,290	803,980	987,100
Barley, bushels.....	132,940	295,180	20,266	187,710
Rye, bushels.....	53,640	59,660	59,850	83,880
Grass Seed, pounds.....	..	..	..	..
Flaxseed, bushels.....	45,130	104,280	17,730	37,460
Hay, tons.....	1,376	1,403	30	30
Flour, barrels.....	23,788	9,679	1,142,170	823,094

RECEIPTS AND SHIPMENTS AT SAN FRANCISCO.

The receipts and shipments of grain and hay at San Francisco, Cal., during the month of February, as compared with the same period of the preceding year, were, according to T. C. Friedlander, secretary of the Produce Exchange, as follows:

Articles.	Receipts.		Shipments.	
	1898.	1897.	1898.	1897.
Wheat, centals.....	674,384	313,364	650,806	378,313
Corn, ".....	25,406	52,250	896	2,096
Oats, ".....	55,865	42,640	882	1,750
Barley, ".....	270,390	106,746	118,654	25,639
Rye, ".....	2,245	1,800	.....	.....
Flaxseed, sacks.....	1,456	1,064	.....	.....
Hay, tons, 	8,893	9,022	230	546
Flour, barrels.....	113,330	73,847	62,124	67,567

INSPECTED RECEIPTS AT CHICAGO

According to the report of Chief Grain Inspector E. J. Noble, the grain received at Chicago during February, 1898, was graded as follows:

WINTER WHEAT.

Railroad.	White.			Hard.			Red.			No G'de.
	2	3	4	2	3	N	2	3	4	
C. B. & Q.				6	32	16			10	4
C. R. I. & P.							1	1	1	
Chicago & Alton				1	4					
Illinois Central				1	4		1	2	1	
Freeport Div. I. C.										
Galena Div. C. & N. W.				2	2					
Wis. Div. C. & N. W.	1						30	4		1
Wabash				7						
C. & E. I.							17	9	3	
C. M. & St. P.	1	1		1	2					
Wisconsin Central										
Chicago & Great West										
A. T. & S. Fe.				3	6		2			
E. J. & E.										
Through and special	16	2					198	29	1	2
Total each grade	16	4	1	10	46	34	251	65	17	3
Total winter wheat										

SPRING WHEAT.

Railroad.	Colorado		Northern		No Grade		White		Mixed	
	2	3	2	3	2	3	2	3	2	3
C. B. & Q.	1	1		30	392	38	1	1	1	6
C. R. I. & P.			2	1	59	5				2
Chicago & Alton										
Illinois Central										
Freeport Div. I. C.			14		9					
Galena Div. C. & N. W.			36		127	19			2	1
Wis. Div. C. & N. W.				1	2					
Wabash										
C. & E. I.										
C. M. & St. P.			4	2	308	10			2	4
Wisconsin Central			1							
Chicago & Great West					6	1				
A. T. & S. Fe.						2				
E. J. & E.					10	6				1
Through and special			6		17	1				
Total each grade	1	1	63	34	930	82	2	1	3	15
Total spring wheat										

CORN.

Railroad.	Yellow.		White.		No Grade	
	2	3	2	3	2	3
C. B. & Q.	40	362		40	78	1226
C. R. I. & P.	19	347		25	86	1558
Chicago & Alton	72	234	21	38	80	269
Illinois Central	73	683	12	177	30	387
Freeport Div. I. C.	11	95	2	8	23	308
Galena Div. C. & N. W.	76	615	2	25	247	1167
Wis. Div. C. & N. W.					30	23
Wabash	67	27	39	16	6	67
C. & E. I.	47	203	2	37	20	856
C. M. & St. P.	15	206		17		
Wisconsin Central					6	161
Chicago & Great West			78		112	98
A. T. & S. Fe.	75	34	23	9	60	239
E. J. & E.	10	76	3	9	21	211
Through and special	43	194		11		
Total each grade	548	3254	104	413	799	6568
Total corn						

OATS AND RYE.

Railroad.	OATS.					RYE.				
	White.			No Grade		No Grade			No Grade	
C. B. & Q.	74	6	743	7	189	32			86	16
C. R. I. & P.	127	2	724	8	33	22	13	5	9	5
Chicago & Alton	12		158	4	67	1	6			
Illinois Central	41	2	297	7	168	80	2		1	1
Freeport Div. I. C.	40	13	456	3	8	22	1	2	23	3
Gal. Div. C. & N. W.	215	4	385	7	60	13	2	2	22	6
Wis. Div. C. & N. W.	6	2	104		1	9				
Wabash	6	2	105	5	68	16				
C. & E. I.	1		80		45	12			1	1
C. M. & St. P.	189	37	945	7	44	29	21	1	77	6
Wis. Central	1		20							
Chi & Great West	35	1	268	2	35	35		4	3	
A. T. & S. Fe.	21	5	87	2	55	4				
E. J. & E.	25	3	85	1	61	2				
Thro and special	6		38	1	30	3				
Total ea. grade	799	76	4495	54	864	280	45	21	238	47
Total oats										
Total rye										

* White Clipped.

BARLEY.

Railroad.	Scotch.		Ray		No Grade		Total No. Cars all Grn by Roads
	2	3	2	3	2	3	
C. B. & Q.							3,555
C. R. I. & P.							3,153
Chicago & Alton							1,008
Illinois Central							2,010
Freeport Div. I. C.							1,247
Galena Div. C. & N. W.							3,262
Wis. Div. C. & N. W.							325
Wabash							455
C. & E. I.							629
C. M. & St. P.			3	71	280	68	3,381
Wisconsin Central							22
Chicago & Great West					5	55	73
A. T. & S. Fe.						2	548
E. J. & E.							624
Through and special							842
Total each grade			3	299	637	111	21,794
Total barley							
Total grain, cars							

VISIBLE SUPPLY OF GRAIN.

The following table shows the visible supply of grain Saturday, March 1, 1898, as compiled by George F. Stone, secretary of the Chicago Board of Trade:

In Store at	Wheat, bu.	Corn, bu.	Oats, bu.	Rye, bu.	Barley, bu.
Albany		70,000	40,000		15,000
Baltimore	1,138,000	1,919,000	352,000	207,000	
Boston	407,000	1,020,000	517,000	18,000	
Buffalo	706,000	1,033,000	88,000	50,000	227,000
do. afloat	410,000			84,000	
Chicago	8,153,000	17,128,000	1,378,000	843,000	425,000
do. afloat	1,581,000	6,993,000	232,000	198,000	93,000
Cincinnati	3,000		13,000	2,000	44,000
Detroit	122,000	11,000	38,000	27,000	
Duluth	2,920,000	2,920,000	2,837,000	1,292,000	539,000
do. afloat					
Indianapolis	60,000	34,000	30,000		
Kansas City	1,059,000	701,000	10,000	10,000	
Milwaukee	108,000	123,000	88,000	79,000	14,000
do. afloat		1,207,000	316,000		
Minneapolis	11,634,000	1,137,000	2,214,000	140,000	45,000
Montreal	113,000	45,000	932,000	37,000	37,000
New York	1,899,000	2,190,000	2,092,000	277,000	9,000
do. afloat			233,000	25,000	159,000
Oswego		853,000	150,000	2,000	33,000
Peoria	343,000	1,373,000	809,000		
St. Louis	1,484,000	3,143,000	127,000	103,000	1,000
do. afloat					
Toledo	243,000	623,000	297,000	15,000	
do. afloat					
Toronto	32,000		15,000		10,000
On Canals			46,000		
On Lakes					
On Miss. River		121,000			
Total	32,415,000	42,644,000	12,854,000	3,409,000	1,656,000
Corresponding date 1897	41,449,000	26,795,000	13,528,000	3,618,000	3,135,000

EXPORTS FROM ATLANTIC PORTS.

The exports of breadstuffs, as compiled by George F. Stone, secretary of the Chicago Board of Trade, from the Atlantic ports during the two weeks ending March 12, as compared with same weeks last year, have been as follows:

Articles.	For week ending Mar. 12.		For week ending Mar. 13.	
	1898.	1897.	1898.	1897.
Wheat, bushels	1,972,000	449,000	1,793,000	559,000
Corn, bushels	3,507,000	4,804,000	4,756,000	5,505,000
Oats, bushels	1,511,000	727,000	1,075,000	604,000
Rye, bushels	217,000	116,000	165,000	88,000
Flour, barrels	360,300	247,206	280,900	200,900

OFFICIAL ESTIMATES OF WHEAT, CORN AND OATS FOR 1897.

Statistician Hyde of the Agricultural Department has presented the following as the department's final estimates by states and territories of the acreage and production of wheat, corn and oats during the year 1897:

STATES.	WHEAT.		CORN.		OATS.	
	BUSHEL.S.	ACRES.	BUSHEL.S.	ACRES.	BUSHEL.S.	ACRES.
Alabama.....	302,869	30,286	30,524,328	2,543,694	3,929,835	302,295
Alaska.....						
Arizona.....	370,782	20,599				
Arkansas.....	1,783,120	169,821	35,580,560	2,223,785	5,284,824	310,872
California.....	32,394,020	3,239,402	1,912,680	60,720	1,029,114	57,173
Colorado.....	5,117,544	213,231	3,353,975	176,525	2,968,540	87,310
Connecticut.....	3,000	150	1,425,627	45,258	608,971	20,999
Delaware.....	1,229,520	57,187	6,373,417	219,773	411,620	18,710
District of Columbia.....						
Florida.....			3,810,976	476,372	395,811	43,979
Georgia.....	1,633,946	173,824	32,173,064	2,924,824	5,517,540	394,110
Idaho.....	2,707,672	123,076			1,046,674	28,834
Illinois.....	11,578,003	1,465,570	232,928,085	7,167,018	92,798,496	2,899,953
Indiana.....	32,675,201	2,513,477	109,825,320	3,660,844	33,706,582	1,116,112
Iowa.....	13,153,114	1,011,778	220,089,149	7,589,281	103,721,100	3,457,370
Kansas.....	47,998,152	3,096,655	162,442,728	9,024,596	38,680,080	1,611,670
Kentucky.....	12,283,343	903,187	64,485,744	2,803,728	7,841,916	435,662
Louisiana.....			21,575,533	1,269,149	665,354	36,963
Maine.....	24,651	1,494	366,411	9,903	4,139,740	133,540
Maryland.....	12,277,056	639,430	20,353,542	616,774	1,938,192	80,758
Massachusetts.....			1,283,295	39,486	488,768	15,274
Michigan.....	23,700,144	1,519,240	31,201,096	990,511	22,940,450	882,325
Minnesota.....	59,891,104	4,607,008	25,840,880	993,880	41,147,002	1,582,577
Mississippi.....	12,370	1,237	30,345,948	2,092,824	1,670,620	119,320
Missouri.....	14,104,458	1,567,162	171,923,882	6,612,457	22,078,166	1,003,553
Montana.....	2,268,240	69,792	19,170	1,065	2,589,888	61,664
Nebraska.....	27,452,647	1,893,286	241,268,490	8,042,283	51,731,095	1,668,745
Nevada.....	833,441	34,298				
New Hampshire.....	8,176	511	818,176	24,064	1,058,260	30,236
New Jersey.....	2,154,584	116,464	8,545,414	271,283	2,555,650	102,226
New Mexico.....	4,282,848	178,452	661,581	24,503	258,795	7,290
New York.....	7,374,611	344,608	15,335,142	494,682	45,953,036	1,482,356
North Carolina.....	4,169,680	521,210	31,323,565	2,409,505	5,820,581	447,737
North Dakota.....	28,353,552	2,752,772	426,020	25,060	11,397,144	495,528
Ohio.....	38,049,133	2,251,428	92,165,580	2,835,864	29,907,392	934,606
Oklahoma.....	10,889,542	546,818				
Oregon.....	18,155,031	1,067,943	331,450	13,258	5,755,776	179,868
Pennsylvania.....	28,259,611	1,434,498	44,866,116	1,246,281	31,842,538	1,129,168
Rhode Island.....			263,314	8,494	118,080	3,690
South Carolina.....	757,726	87,095	15,307,929	1,700,881	3,830,500	247,129
South Dakota.....	21,441,248	2,680,156	23,855,688	993,987	13,647,656	620,348
Tennessee.....	10,052,448	897,540	63,672,588	3,032,028	3,842,890	384,289
Texas.....	7,028,251	444,826	72,175,142	3,901,359	16,311,150	652,446
Utah.....	3,190,740	151,940	186,494	8,477	838,355	23,953
Vermont.....	59,806	3,518	1,583,295	45,237	3,497,043	105,971
Virginia.....	8,451,864	704,322	31,552,164	1,752,898	5,233,092	436,091
Washington.....	20,124,648	856,368	116,586	6,477	3,822,528	79,636
West Virginia.....	5,883,431	439,062	17,004,298	649,053	3,142,420	157,121
Wisconsin.....	7,690,775	615,262	33,645,183	1,019,551	62,125,310	1,827,215
Wyoming.....	477,075	19,083	28,308	2,359	479,255	13,693
Total.....	530,149,168	39,465,066	1,902,967,933	80,095,051	698,767,809	25,730,375

THE METRIC SYSTEM.

Considerable discussion has lately arisen in this country and in England over the metric and decimal systems of weights and measures, says the Railway and Engineering Review. Since the application of scientific investigation to industrial enterprise, and the great commercial stimulus which has followed in consequence, the cumbersomeness of the standard units in use in all English speaking countries has been continually manifested; and in the consideration of substituting something more in keeping with modern progress, that which has best recommended itself for simplicity and ease in calculation has been the metric system. Evolved about a century ago, and legally adopted in many countries—compulsorily in some, and permissively in others—its use has surely been gaining ground, and it would appear that its universal acceptance can be but a question of time.

MISSOURI GRADES.

The rules governing the grading of grain in the different grain markets vary so much, and are changed so frequently that no shipper can keep track of them. It would prevent many misunderstandings and simplify the business greatly if uniform rules would be adopted in all markets. After a shipper had once learned the rules he could ship to any market without getting into trouble.

The rules and regulations governing the inspection of grain in Missouri as adopted by the State Board of Railroad and Warehouse Commissioners are as follows:

RULE I.

WINTER WHEAT.

No. 1 White—To be bright, sound, dry, plump and well cleaned pure white winter wheat.

No. 2 White—To be sound, dry, well cleaned, pure white winter wheat.

No. 3 White—To be sound, dry, white winter reasonably clean.

No. 1 Red—To be bright, sound, plump, dry and well cleaned red winter wheat, weighing not less than 61 pounds to the measured bushel.

No. 2 Red—To be sound, well cleaned, dry red winter wheat, weighing not less than 59 pounds to the measured bushel.

No. 3 Red—To be sound, reasonably cleaned red, or red and white mixed winter wheat, below No. 2 Red, weighing not less than 56 pounds to the measured bushel.

No. 4 Winter—To be red, white or mixed, thin or bleached winter wheat, reasonably sound and unfit to grade No. 3 red.

Rejected Winter—All damp, tough, very musty, very smutty, trashy, dirty, damaged or thin wheat falling below No. 4 winter.

CALIFORNIA, COLORADO, WASHINGTON, IDAHO AND UTAH WHEAT.

No. 2—To be sound, dry, well cleaned; pure white wheat, free of smut; grown in Colorado, Utah, California, Washington or Idaho.

No. 3—To be sound, dry, reasonably cleaned white wheat; grown in Colorado, Utah, California, Washington or Idaho.

Wheat of above description of lower grades to be classed on its merits as regular No. 4 or Rejected.

HARD WINTER WHEAT.

No. 1—To be sound, dry and clean hard winter wheat, and to weigh not less than 61 pounds to the bushel.

No. 2—To be sound dry and clean hard winter wheat, and to weigh not less than 59 pounds to the bushel.

No. 3—To be sound, and reasonably clean hard winter wheat, and to weigh not less than 56 pounds to the bushel.

No. 4—To be reasonably sound, thin or bleached, hard winter wheat, unfit to grade No. 3 Hard.

Rejected Hard Winter—All damp, tough, very musty, very smutty, trashy, dirty, damaged or thin wheat, falling below No. 4 Hard.

SPRING WHEAT

No. 1—To be bright, sound and well cleaned spring wheat.

No. 2—To be bright, sound spring wheat, reasonably cleaned.

No. 3—To include all dry and reasonably sound spring wheat, not equal to No. 2.

WHITE SPRING WHEAT.

No. 1 White—To be bright, sound and well cleaned white spring wheat.

No. 2 White—To be bright and sound white spring wheat, reasonably cleaned.

No. 3 White—To include all dry and sound white spring wheat below No. 2.

REJECTED SPRING WHEAT

All damp, tough, musty, very smutty, trashy, dirty, damaged or thin wheat falling below No. 3.

MIXED WHEAT.

No mixtures of different kinds of wheat shall be allowed in No. 2 Red Winter Wheat, No. 2 Hard

Winter Wheat, and No. 2 Spring Wheat. The same restriction shall apply to No. 3 Red Winter Wheat, except that White Winter Wheat shall be allowed to be mixed with it.

All mixed Spring and Soft and Hard Winter Wheat shall be classed as Mixed Wheat, and graded as follows:

No. 2 Mixed Wheat—To be sound, dry and clean, and not to weigh less than fifty-nine (59) pounds to the bushel.

No. 3 Mixed Wheat—To be sound and reasonably clean, and not to weigh less than fifty-six (56) pounds to the bushel.

REJECTED MIXED WHEAT.

All damp, tough, musty, very smutty, damaged or thin Mixed Spring and Winter Wheat falling below No. 3 Mixed Wheat, shall be graded as Rejected Mixed Wheat.

All rules and regulations conflicting with the amendments enumerated above are hereby repealed.

RULE II.

CORN.

No. 1 St. Charles White—Shall be St. Charles white corn of choice quality, sound, dry and well cleaned.

No. 2 St. Charles White—Shall be St. Charles white corn, sound, dry and reasonably clean, but not good enough for No. 1.

No. 3 St. Charles White—Shall be St. Charles white corn, not dry, clean, nor sound enough for No. 2.

No. 1 Yellow—Shall be pure yellow corn, sound, dry and well cleaned.

No. 2 Yellow—Shall be seven-eighths yellow, sound, dry and reasonably clean.

No. 3 Yellow—Shall be seven-eighths yellow, reasonably dry and reasonably clean, but not sound enough for No. 2.

No. 1 White—Shall be pure white corn, sound, dry and well cleaned.

No. 2 White—Shall be 15-16 white, sound, dry and reasonably clean.

No. 3 White—Shall be 15-16 white, reasonably dry and reasonably clean, but not sound enough for No. 2 white.

No. 4 White—Shall be 15-16 white, not wet or in a heating condition, and unfit to grade No. 3 white.

No. 1 Corn—Shall be mixed corn of choice quality, sound, dry and well cleaned.

No. 2 Corn—Shall be mixed corn, sound, dry and reasonably clean.

No. 3 Corn—Shall be mixed corn, reasonable dry and reasonably clean, but not sufficiently sound for No. 2.

No. 4 Corn—Shall include all mixed corn, not wet or in a heating condition, that is unfit to grade No. 3.

RULE III.

OATS.

No. 1 Oats—Shall be mixed oats, sound, clean and free from other grain.

No. 2 Oats—Shall be mixed oats, sweet, reasonably clean and reasonably free from other grain.

No. 3 Oats—Shall be mixed oats that are slightly damp, unsound, slightly musty, dirty, or from any other cause unfit to grade No. 2.

No. 4 Oats—Shall be mixed oats, not wet or in a heating condition, or from any other cause unfit to grade No. 3.

No. 1 White Oats—Shall be pure white, sound, clean, and free from other grain.

No. 2 White Oats—Shall be seven-eighths white, sound, reasonably clean and reasonably free from other grain.

No. 3 White Oats—Shall be seven-eighths white, but not sufficiently sound and clean for No. 2.

No. 4 White Oats—Shall be seven-eighths white, not wet or in a heating condition, badly stained, or from any other cause unfit to grade No. 3 White.

No. 2 Oats "Color"—Shall be three-fourths white and in condition the same as No. 2 Oats.

No. 3 Oats "Color"—Shall be three-fourths white and in condition the same as No. 3 Oats.

No. 1 Northern Oats—Shall be mixed oats of Northern growth, and in condition the same as No. 1 Oats.

No. 2 Northern Oats—Shall be mixed oats of Northern growth and in condition the same as No. 2 Oats.

RULE IV.

RYE.

No. 1—To be plump, sound, bright and well cleaned.

No. 2—To be sound and reasonably cleaned.

No. 3—To be reasonably sound and reasonably clean, unfit for No. 2.

No. 4—To include all damp, musty, dirty rye, unfit for No. 3.

RULE V.

BARLEY.

No. 1 Fall—To be plump, bright, sound and free from other grain.

No. 1 Spring—To be plump, bright, sound and free from other grain.

No. 2 Fall—To be sound and reasonably clean.

No. 2 Spring—To be sound and reasonably clean.

No. 3 Fall—To be reasonably clean and merchantable.

No. 3 Spring—To be reasonably clean and merchantable.

Rejected—To include all unsound and damaged barley.

RULE VI.

NO-GRADE GRAIN.

All grain that is wet, hot or in a heating condition shall be classed as No-Grade.

RULE VII.

All inspectors shall make their reasons for grading grain when necessary fully known by notations on their books. The weight alone shall not determine the grade.

RULE VIII.

Each inspector is required to ascertain the weight per measured bushel of each lot of wheat inspected by him, and note the same on his books.

RULE IX.

Wheat containing live weevil shall not be graded, but the inspector must give the kind and test weight of same, noting live weevil.

OBITUARY

A. Riley, of the grain firm of Riley & Son, Montpelier, Ohio, is dead.

J. E. Just, the banker and grain dealer of South Lyon, Mich., died recently.

Oscar J. Hull, who for many years conducted a feed and grain business at Fair Haven, Conn., died there recently of heart disease.

The death of Owen Cahill occurred February 24 in New Orleans, La., where for many years he was engaged in the grain, hay and milling business.

The death of Edmond P. Shaffer occurred in Philadelphia, Pa., on February 19, where for many years he was connected with the wholesale grain trade.

Francis A. Waldron, a well-known grain dealer and miller of Portland, Me., died February 23, aged 82 years. He had been a resident of Portland since 1835.

Jesse Birch died recently at Oxford, Ind., aged 78 years. He was well known throughout Benton, Warren and Fountain counties as a grain merchant. He came to Oxford from Ohio 25 years ago.

Hugh W. Shottwell, a member of the Produce Exchange and a dealer in grain and feed at No. 25 Whitehall Street, New York, died February 19 at his home at Hempstead, L. I. He was 69 years old.

John Syme, who at one time operated an elevator at Sycamore, Ill., where he resided for many years, died at Evanston, February 21. The funeral was held in Sycamore, conducted by the Knights Templar.

Thos. M. Miller died at Memphis, Tenn., on February 19, aged about 50 years. He was a member of the Memphis Merchants' Exchange, and was the grain man of the flour and produce commission firm of Hugh Pettit & Co.

The death of John Mitchell occurred at his home in Sugar Creek Township, Montgomery Co., Ind., on February 16. Mr. Mitchell was in his eightieth year. For 14 years prior to 1887 he was engaged in the grain trade and operated an elevator at Colfax, Ind.

William Meadows passed away at his home in Buffalo, N. Y., on March 1, at the age of 61 years. He was a native of Kettering, England, came to Chicago when a young man, and became well known in the grain trade. After the Chicago fire, he went to Buffalo and continued in the grain business. For a number of years he was a director of the Buffalo Merchants' Exchange.

There has been very little heard of late of the bucket-shops, no doubt on account of rumored wars and the remarkable rise in the price of wheat, but the probabilities are they are "sawing wood" just the same.

Nauvoo, Ill., is a town of some 1,300 inhabitants, and doubtless the largest in the state that has no railroad. Naturally, therefore, it is not an attractive point for grain buyers. The business men, feeling the need of such a trade magnet, have just organized a Grain Buyers' Association, and its \$4,000 capital has all been subscribed for. Max Reinhold is president, Wm. Singleton, treasurer, and John Schmitz, secretary. In winter the grain will have to be hauled across the Mississippi River to Montrose, Iowa, for rail shipment, or else stored until spring, when it can be shipped to St. Louis by steamboats.

Grain Dealers' Associations.

THE GRAIN RECEIVERS' AND SHIPPERS' ASSOCIATION OF CHICAGO.

President, John Hill Jr.; vice-president, S. H. Greeley; secretary, W. N. Eckhardt; treasurer, Wm. Nash.

CAR GRAIN ASSOCIATION OF BUFFALO.

President, Charles Kennedy; vice-president, J. H. Rodebaugh; treasurer, W. V. Downer; secretary, S. W. Yantis.

ILLINOIS GRAIN DEALERS' ASSOCIATION.

President, S. S. Tanner, Minier; vice-president, E. R. Ulrich Jr., Springfield; treasurer, F. M. Pratt, Decatur; secretary, B. S. Tyler, Decatur.

TRANS-MISSOURI FEDERATION OF GRAIN DEALERS' ASSOCIATIONS.

President, G. W. Wirt, York, Nebr.; treasurer, M. H. Roller, Circleville, Kans.; secretary, E. J. Smiley, Concordia, Kans.

OHIO GRAIN DEALERS' ASSOCIATION.

President, J. W. McCord, Columbus; vice-president, J. B. Van Wagener, London; treasurer, G. T. Chamberlain, Columbus; secretary, Huntington Fitch, Columbus.

GRAIN SHIPPERS' ASSOCIATION OF NORTH-WESTERN IOWA.

President, E. J. Edmonds, Marcus; vice-president, E. M. Parsons, Carroll; secretary and treasurer, F. D. Babcock, Ida Grove; assistant secretary, F. G. Butler, Schaller.

THE GRAIN DEALERS' UNION OF SOUTH-WESTERN IOWA AND NORTHWESTERN MISSOURI.

President, D. Hunter, Hamburg, Iowa; vice-president, E. H. Vanschioack, Elliott, Iowa; treasurer, J. B. Samuels, Riverton, Iowa; secretary, G. A. Stibbens, Coburg, Iowa; governing committee, F. M. Campbell, Randolph, Iowa; J. B. McKown, Hastings, Iowa; Ed. F. Rose, Coin, Iowa; J. A. Funk, Blanchard, Iowa; J. L. Gwynn, Imogene, Iowa.

GRAIN DEALERS' NATIONAL ASSOCIATION.

President, W. T. McCray, Kentland, Ind.; first vice-president, E. A. Grubbs, Cincinnati, Ohio; second vice-president, J. M. Sewell, Hastings, Nebr.; secretary, Charles S. Clark, Chicago; Board of Directors: M. McFarlin, Des Moines, Iowa; Theo. P. Baxter, Taylorville, Ill.; H. N. Knight, Monticello, Ill.; W. B. Heatt, Willis, Kans.; A. E. Clutter, Lima, Ohio.

PRESS COMMENT

TAKING THE LEITER CURE.

Joseph Leiter is curing many persons of the habit of selling wheat which they do not possess to other persons who have not the money to pay for it.—Milwaukee Sentinel.

CONSUMERS NOT ANXIOUS.

Some sorts of wheat in special localities of Europe are bringing fancy prices, but the demand seems to be easily supplied and then for a time there seems to be very little inquiry at the same points. The fact seems to be that consumers will buy only for immediate requirements during the remainder of this crop season, with the result that values promise to be much unsettled.—Minneapolis Market Record.

STATE INSPECTION FOR OHIO.

The General Assembly should go very slow in putting useless restrictions upon the grain trade. At least three-fourths of the grain business in Ohio represents receipts from outside the state, and the result of the enactment of the Snider bill into law would be to drive this grain to points in other states, thus inflicting enormous injury on the commerce of the state, without any compensating advantage.—Blade, Toledo.

CONTEST BETWEEN CANADIAN AND AMERICAN CARRIERS.

The contest between the Canadian Pacific and the railways of the United States over the far west business has taken on a rather serious aspect. It is developing a tendency to upset normal conditions in more than one section, and may, unless amicably closed, prove to be one of the most serious tariff troubles of recent days. The Interstate Commerce Commission has intervened in a suggestive way by granting a suspension of the long and short haul

clause to aid the cause of those on this side of the Canadian line. This international episode will, of course, be eventually smoothed over; but meanwhile the situation is anything but pleasing.—Railway Review.

THE WOODEN ELEVATOR.

The old wooden grain elevator is out of date. It is a survival of the time when the country was new and building material difficult to obtain. Nobody building new should adopt wood without serious consideration.—Roller Mill.

EFFECT OF WAR.

What effect will war produce in the grain markets? We have already expressed the opinion that as American bottoms were not the carriers of exported grain, we cannot see how prices will be disturbed much in either direction. Still it will prove an unsettling element in money and many branches of trade, besides grain.—Toledo Market Report.

A REFINEMENT OF ACCURACY.

Until the last legislature the legal weight of a bushel of corn in the ear, in Indiana, was 68 pounds, but that aggregation of statesmen decided to go into a refinement of accuracy and provided that the legal weight of corn in the ear should be "70 pounds, until the first of December next after it is grown, and after that date 68 pounds." Just why a bushel of corn should increase nearly 3 per cent. in the hands of the owner on December 1 is not very clear.—Sentinel, Indianapolis, Ind.

THE MARKETS

[We will be pleased to publish under this head short reviews of the conditions ruling in the different markets. Copy must reach us by the morning of the 14th of each month.]

Grain Report of Collins & Co., Cincinnati, Ohio, March 11: The market for grain here the past week has ruled steady, with very little change in values compared with a week ago, but the indications point to an improvement in prices as the movement will no doubt be curtailed, for farmers are growing busy with spring plowing. The demand for all kinds of grain is still active, and higher values are anticipated by reason of the few offerings. The holders of grain who are in position to market their holdings are quite likely to realize the best prices if they will take advantage of the existing conditions which surround this market at the present time, and make prompt shipments. Wheat—Is steady with the arrivals very light. The demand is confined to what is wanted for immediate requirements, the millers operating on the hand-to-mouth plan. No. 2 Red at 97 cents, No. 3 Red at 93 to 95 cents; Sample lots range from 85 to 95 cents as to quality. Corn—The demand is fairly active, and while the receipts move readily, the tendency of the market is inclined toward a little more firmness, but larger offerings would cause an easier feeling to prevail. No. 2 White at 32 to 32½ cents, No. 3 White at 31 cents, No. 2 Mixed and Yellow at 31 to 31½ cents, No. 3 Mixed and Yellow at 30½ cents. Ear Corn—Choice selected Yellow Ear suitable for feeding purposes at 32 to 33 cents, but there is but little of this class offered. Mixed Ear at 30 to 31 cents, White at 29½ to 30½ cents as to quality. Oats—The small arrivals impart a stronger tone to the market, and prices are tending upward. Quick shipments would strike a good market, as the inquiry is confined almost entirely to spot offerings, with buyers desiring to examine quality as the heavy qualities are being purchased for seed. Choice heavy White at 32 to 33 cents, No. 2 White at 31½ to 32 cents, No. 3 White at 30 to 31 cents, Rejected White at 28½ to 30 cents as to quality. No. 2 Mixed at 28½ to 29 cents, No. 3 Mixed at 27 to 27½ cents, Rejected Mixed at 26½ to 27 cents and the few offering sold readily. Rye—The inquiry rules good for all offerings. Choice Michigan or Northwestern at 54 to 55 cents, Ordinary No. 2 at 52 to 54, No. 3 at 49 to 51 cents. Sample lots range from 45 to 49 cents. Hay—Receipts for the week 3,444 tons. Shipments 2,477 tons. A steady, firm market has ruled throughout the week, with arrivals inclined to rule somewhat more liberal, as there is a disposition to hurry shipments before the busy season sets in. Demand has ruled constant, as the trade are increasing stocks on hand in order to have sufficient supplies to carry them through the planting season. While the demand rules active and firm prices prevail, quick shipments are in order. Good qualities of Timothy are still scarce and wanted. Most of the offerings are lacking in color, which is characteristic of this crop. Good, bright, sweet mixed hay, either clover or grass mixed, continues in fair request, but there is no improvement in the demand for pure clover and not likely to be this season. Choice Timothy at \$9.00 to \$9.25, No. 1 at \$8.50 to \$8.75, No. 2 at \$6.75 to \$7.25; No. 1 bright green, well cured Clover Mixed \$6.25 to \$6.75, No. 1 Pure Clover at \$5.00 to \$6.00, No. 3 Timothy at \$5.00 to \$5.50, No. 2 Clover and

Clover Mixed at \$4.00 to \$4.50. Straw is slow and dull with bright Wheat at \$3.50 to \$4.00. Rye \$4.00 to \$4.50. Mill Feed—Easy under a small inquiry. Bran at \$12.75 to \$13.00, Middlings at \$13.00 to \$13.50 in bulk.

Late Patents

Issued on February 15, 1898.

Elevator or Conveyor.—Frederick F. Kanne, Waterville, Minn. No. 599,101. Filed Dec. 28, 1896.

Explosive Engine.—Peter L. Hider, Ottawa, Kans. No. 599,235. Filed Dec. 21, 1896.

Grain and Seed Separator.—Frank Eves and Myron Eves, Murphysboro, Ill. Myron Eves assignor to said Frank Eves. No. 598,984. Filed June 24, 1893.

Combustible Vapor Engine.—Geo. H. Gere, Grand Rapids, Mich. No. 598,986. Filed Dec. 28, 1895.

Issued on February 22, 1898.

Corn Sheller.—Joseph M. Allen and Geo. W. Bearden, Cartecay, Ga. No. 599,582. Filed June 19, 1897.

Conveyor for Corn Shellers.—John H. Gilman, Ottawa, Ill., assignor to the King & Hamilton Co., same place. No. 599,500. Filed April 24, 1897.

Gas Engine.—James Fraser, London, Eng. No. 599,496. Filed June 15, 1896.

Gas Engine.—Warren E. White, Garrett, Ind., assignor of one-half to Edw. P. Fitzgerald, J. B. Mager and E. B. Thumma, same place. No. 599,375. Filed Sept. 16, 1895.

Gas Engine Attachment.—Warren E. White, Garrett, Ind., assignor of one-half to The Garrett Engine, Boiler & Machine Works, same place. No. 599,376. Filed April 9, 1897.

Multiple Cylinder Vapor Engine.—Ralph B. Hain, Grand Rapids, Mich., assignor to the Monitor Vapor Engine & Power Co., same place. No. 599,653. Filed Feb. 6, 1897.

Issued on March 1, 1898.

Baling Press.—Hamilton D. Coleman, New Orleans, La. No. 599,685. Filed Sept. 2, 1897.

Corn Sheller.—John Q. Adams, Marseilles, Ill. No. 599,759. Filed June 1, 1897.

Elevator.—Francis H. Richards, Hartford, Conn. No. 600,033. Filed Oct. 17, 1897.

Weighing Apparatus or Plant.—Francis H. Richards, Hartford, Conn. No. 600,031. Filed Aug. 19, 1897.

Reversing Mechanism for Gas or Other Engines.—Benj. W. Grist, Philadelphia, Pa., assignor to the Pennsylvania Iron Works Co., same place. No. 599,779. Filed Oct. 11, 1897.

Grain Conveyor.—Karl Hurliman, Rankin, Ill. No. 599,785. Filed March 9, 1897.

Weighing and Delivering Apparatus.—Francis H. Richards, Hartford, Conn. No. 600,039. Filed June 15, 1897.

Weighing and Delivering Apparatus.—Francis H. Richards, Hartford, Conn. No. 600,040. Filed Aug. 10, 1897.

Issued on March 8, 1898.

Bale Tying Press.—Abraham Amanns, Grammer, Ind., assignor of two-thirds to Jas. V. Wright and James Childers, same place. No. 600,328. Filed March 8, 1897.

Baling Press.—Skiles W. Bricker, Ore, Mo. No. 600,353. Filed Aug. 26, 1897.

Explosive Engine.—Lars Halvorson, Wilmar, Minn. No. 600,147. Filed July 9, 1896.

Smut Machine.—Faustin Prinz, Milwaukee, Wis. No. 600,319. Filed Aug. 1, 1896. Renewed Aug. 17, 1897.

It is reported that an agent of J. Q. Adams & Co. of Minneapolis is in the Palouse country in Washington buying 250,000 bushels of wheat in bulk for eastern shipment. The price offered is said to be about six cents better than is paid by local dealers. This is said to be the first eastern shipment of any consequence that has been made since 1893.

State Grain Inspector Wright of Washington has suggested a number of changes in the law governing inspection which he believes would prove a benefit to the trade. He believes that warehouses and elevators should be licensed to do business, and a uniform system of testing warehouse scales adopted; that warehouses on blind sidings should be compelled to seal loaded cars, and that the opening of cars at terminals to procure samples before arriving at warehouses should be prohibited.

PERSONAL

V. L. Anderson, who has been dealing in grain and seeds at Millington, Ill., is now located at Lee.

Will Savage has moved from Fowlerville to East Cohoctah, Mich., where he has charge of an elevator.

W. O. Moyer has sold his interest in the stove and grain business at Kemp, Ill., and expects to go to Seattle, Wash.

It is reported that Wiley Hill will open and manage a leased elevator at Shelbyville, Ind., for a grain company at Newport News, Va.

Gommel Smith has moved with his family from San Jose to Delavan, Ill., where he has charge of the grain business of Fryer & Smith.

Gen. Fitzhugh Lee, now prominent in the public eye as consul general at Havana, Cuba, was, for many years following the civil war, a farmer and miller in Stafford County, Va.

The marriage of Harry M. Taggart and Miss Flora Alida Monser occurred at Wenona, Ill., on February 15. Mr. Taggart is the junior member of the grain firm of J. H. Taggart & Son of that place.

John F. Craig Jr., a well-known grain merchant of West Philadelphia, Pa., has been missing for several weeks. His business was not prosperous, but there is said to be no apparent motive for his disappearance.

Howard Commons, of Commons, Bassett & Co., and E. N. Osborne, of the Osborne & McMillan Elevator Co., Minneapolis, who have been sojourning in China for a couple of months, are expected home about May 1.

It is reported that Wm. F. Norton, the eccentric millionaire, who owns the Auditorium Theater in Louisville, Ky., and manages it under the name of Daniel Quilp, cleared 7 cents per bushel on 1,000,000 bushels of wheat recently.

CROP REPORTS

[Readers will confer a favor by sending us reports each month of the acreage and condition of growing crops, the amount of grain and hay in farmers' hands and stocks in store, for publication in this department.]

KENTUCKY, Sherburne, Fleming Co., Feb. 28.—Wheat is looking fine in this part of the country. L. R. VEATCH.

MICHIGAN.—Under favorable conditions, Michigan ought to harvest 26,000,000 to 28,000,000 bushels of wheat in 1898.—Chicago Trade Bulletin.

INDIANA, Goshen, Elkhart Co., March 9.—Wheat is looking fine in this section; weather warm, and roads drying up very rapidly. We will have a good crop if nothing unforeseen happens. WM. G. CLARK.

MISSOURI, Belgrade, Washington Co., Feb. 28.—The prospect of a good wheat crop here is very good yet. The coat of ice we had last January did not do the damage that some thought it would. J. R. McATEE.

WISCONSIN, Loyd, Richland Co., Feb. 29.—The prospects for winter wheat are good. The farmers are also raising some spring wheat, and a larger amount will be sown this spring. PARFREY & PARFREY.

KANSAS, Chetopa, Labette Co., March 1.—Rains and warmer weather have made an improvement in the growing wheat. Some of the wheat that was sown late has just recently come up, but if nothing in the future prevents this section will have an average acreage and yield.

NEBRASKA.—A dispatch from Omaha, dated March 10, says: "A most extraordinary blizzard has prevailed throughout Nebraska for the past ten hours. On the wheat fields the benefits will be enormous, improving the prospects of the state 20 per cent. As the ground is so warm, the snow cannot last many hours."

GOVERNMENT CROP REPORT.—United States Department of Agriculture, Division of Statistics.—Washington, D. C., March 10, 1898.—The consolidated returns of the different crop-reporting agencies of the Department of Agriculture, made up to March 1, show the wheat reserves in farmers' hands on that date to have been the equivalent of 22.9 per cent. of last year's crop, or about 121,000,000 bushels. This is 33,000,000 bushels in excess of the farm reserve reported one year ago, but the result of the special wheat investigation made by the department last fall would indicate that the crop of 1896 was larger than the department had reason to believe at the time. The proportion of the crop of 1897 shipped beyond county lines is 50.7 per cent. CORN.—The corn in farmers' hands, as estimated, aggregates 783,000,000 bushels, or 41.1 per cent. of last year's crop, against 1,164,000,000 bushels, or 51 per cent., on hand on March 1, 1897, and 1,072,000,000 bushels,

or 49.8 per cent., on March 1, 1896. The proportion of the total crop shipped out of county where grown is estimated at 21.6 per cent., or about 412,000,000 bushels. The proportion of the total crop merchantable is estimated at 86.8 per cent. OATS.—Of oats there are reported to be about 272,000,000 bushels, or 38.9 per cent., still in farmers' hands, as compared with 313,000,000 bushels, or 44.2 per cent., on March 1, 1897. The proportion of this crop shipped beyond county lines is estimated at 29.2 per cent. JOHN HYDE, Statistician.

OHIO.—The official report of the Ohio Department of Agriculture on the condition of wheat, March 1, gives the percentage estimates from the returns of regular crop correspondents of the department, in which is represented nearly every township in the state. The township reports are first reduced to a county average, and from the counties to a general average for the state, of each item named. WHEAT.—Condition compared with an average 67 per cent. The condition of wheat, so far as correspondents are able to estimate at this time, is about 33 per cent. below a fair average condition for March 1. This low estimated condition is attributable to several causes, chief among which was the late seeding last fall; late because of drouth that prevailed during September and October, which rendered the condition of the soil such as to operate against proper germination of the seed, after being sown. The drouth was not broken until November, and the wheat plant did not gain sufficient root and vitality before the winter season, consequently has not been able to gain anything for a vigorous spring start. The plant appears weak, and is thin on the ground, many fields seeming bare or nearly so on observation from a distance, and such fields, even on close inspection, do not show an even distribution or entire covering, giving evidence that spots have been winter killed and later on may show no wheat. A great many correspondents report that while the freezing and thawing have not been severe, the effect has been destructive because of the slight root hold and readiness to upheaval. From the counties where snow protection has been greatest, there are many good reports, but summing up for the state, the condition of late sown wheat is poor, and as most of the seeding was done very late, this condition applies to the greater portion. In the few sections of the state where farmers did sow early, the plant presents much better and near a fair average condition. Conditions may change materially by April 1. March is usually the pivotal month for wheat, and a great deal depends upon weather conditions during this month as to whether there will be a very short or simply a fair crop. We can hardly expect a full average.

MICHIGAN, Lansing, March 8, 1898.—Just previous to the middle of February the ground in Southern Michigan was bare of snow, or nearly so, for a few days, but the weather was not severe, and the wheat plant suffered little if any injury. During the balance of the month the fields throughout the state were well protected by a more or less heavy covering of snow, and wheat has not yet been materially damaged. In answer to the question, "Has wheat during February suffered injury from any cause?" 63 correspondents in the state answer "yes," and 633 "no." In the southern counties 44 answer "yes" and 411 "no," in the central 13 answer "yes," and 144 "no," and in the northern 6 answer "yes," and 78 "no." In answer to the question, "Has the ground been well covered with snow during February?" 285 correspondents in the southern counties answer "yes," and 158 "no," and in the central counties 119 answer "yes," and 42 "no." The average depth of snow in the southern counties February 15 was 3.50 inches, and at the end of the month 8.50 inches. In the central counties the average depth February 15 was more than eight, and at the end of the month nearly 13 inches. In the northern counties there was about 15 inches of snow February 15, and nearly 18 inches at the end of the month. Snow has covered the ground fairly well to the present date in March, but during the past few days it has slowly melted away, and by to-morrow (March 9), the fields in Southern Michigan will be practically bare. The weather forecast for to-morrow is for higher temperature with rain. The total number of bushels of wheat reported marketed in February is 1,095,536, and in the seven months, August-February, 11,359,400. This is 4,481,957 bushels more than reported marketed in the same months last year. The amount of wheat in farmers' hands March 1, that may yet be placed on the market, was probably about 5,165,000 bushels. This total is arrived at in the following manner: The crop of 1897, as estimated by this department last October, was 24,925,000 bushels. The amount used for seed was, approximately, 2,400,000 bushels; amount held by farmers to supply their own families for one year, 6,000,000; amount reported marketed to March 1, 11,359,400 bushels, making a total of 19,759,400 bushels disposed of, and leaving 5,165,600 bushels yet to be disposed of. It will, of course, be understood that this year's acreage is not yet definitely known, but the best data available indicate about 1,600,000 acres. The farming population is assumed to include the entire population living outside of cities and incorporated villages, which, in 1894, the date of the last census,

numbered nearly 1,200,000. A year's supply for this population is not far from 6,000,000 bushels. WASHINGTON GARDNER, Secretary of State.

KENTUCKY.—The Kentucky report on the condition of crops March 1, 1898, is made up from replies received from 162 correspondents representing 103 counties. It has been deemed best to subdivide the state into three grand divisions in order that the average may be made to apply to some crops that are peculiar to each section. The western section embraces 39 counties, and is west of a line drawn from Hardin County on the north to Allen County on the south. The central, or more properly the north central, embraces 40 counties lying east of the above-named line, and northeast of an irregular line drawn from Hart County to the county of Greenup in the northeast corner of the state. The southeast section embraces the remaining 40 counties lying southeast of the last mentioned line. The western counties, almost without exception, grow the darker, heavy type of tobacco, while in the north central section the production is confined to the burley types. Both the western and north central sections produce a large surplus of agricultural products. In the southeast section the grain produced is consumed at home, it being a rare occurrence to ship beyond the confines of the counties. This section, however, produces largely of stock, cattle, sheep and hogs. These subdivisions will be adhered to in the future without calling further attention to the fact. WHEAT.—In the western section the condition of the wheat crop compared with average year is 93. On March 1, 1896, the conditions of wheat, including the whole state, was 64, and for March 1, 1897, the condition was 88. On Dec. 1, 1897, the date of the last report from this bureau, the condition for the state was 103, showing a falling off for the western section, as compared with the state, of 10 points during the winter. Forty-two correspondents from the western section reply to the question "has wheat suffered from any cause during the winter?" and of this 15 reply "yes," and 27 "no." Hessian fly and freezing and thawing without snow protection are the causes mostly assigned. Hessian fly, while frequently reported, does not seem to be doing serious damage, 92 per cent. in Barren County being the lowest average reported due from this cause, while freezing and thawing have reduced the condition to 60 per cent. in McCracken County. The per cent. of old crop still in farmers' hands in this section is 19, and the average price of wheat is 91 cents. On March 1, 1897, the per cent. reported still in farmers' hands, the state included, was 9, and the price 84 cents. In the north central section the condition averages 90. Twelve correspondents report damage to wheat during winter, and 32 report no damage. No fly damage is reported in this section. Here the per cent. of 1897 crop still in the farmers' hands is 14, and the average price is 90 cents. The per cent. of condition ranges from 60 in Garrard County to 120 in the county of Henry. In the southeast section so little wheat is grown that the production in the state is not affected, and for this reason no estimate is given. CORN.—The per cent. of old crop still in farmers' hands averages 41 per cent. in the western section, and 40 per cent. in the central. The southeastern section grows more corn than wheat; here the percentage of old corn in the farmers' hands is 50 per cent. LUCAS MOORE, Commissioner.

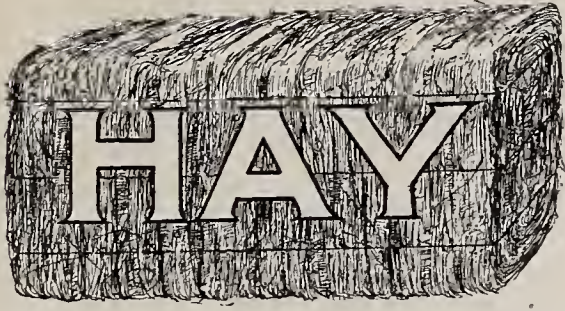
OUR CALLERS

We have received calls from the following gentlemen prominently connected with the grain and elevator interests, during the month:

H. R. Sheldon, Gibbon, Nebr.
W. T. McCray, Kentland, Ind.
H. C. Heath, Parry Sound, Ont.
E. L. Bowen, Des Moines, Iowa.
D. A. Robinson, Minneapolis, Minn.
Col. Watson, of The Case Mfg. Co., Columbus, Ohio.
David Greene, of The Case Mfg. Co., Columbus, Ohio.
J. Silas Leas, of the Barnard & Leas Mfg. Co., Moline, Ill.
G. M. Robinson, of the Charter Gas Engine Co., Sterling, Ill.
Chas. Hammond, of the Huntley Mfg. Co., Silver Creek, N. Y.

The Buffalo Scale Co. of Buffalo, N. Y., informs us that we erred in describing the equipment of the elevator at Portland, Me., in our January number. The Buffalo company supplied the scales, and should have been given credit for it.

Dawson County, Nebraska, last year had in operation 238 miles of irrigation ditches, with capacity for 136,000 acres. H. O. Smith, of Lexington, Nebr., has secured written reports from 30 farmers as to the benefits of irrigation. The following is the average of the reports: Yield of wheat per acre, irrigated, 25.5 bushels; not irrigated, 15 bushels. Corn per acre, irrigated, 47.5 bushels; not irrigated, 11.8 bushels. The average cost of water and its application was \$2.14 per acre.



F. H. Souder is enlarging his hay baling establishment at North Lansdale, Pa.

The hay and feed firm of Birdsall & Wiggins, New York City, has been dissolved.

Moise Henrichon, a hay and grain dealer of Montreal, Quebec, has assigned.

There is said to be an abundance of hay in Eastern Pennsylvania awaiting a market.

Fred Mekus has succeeded the firm of Calkins & Mekus in the hay business at Jewell, Ohio.

It is suggested that the motto of the new hay "trust" will probably be: "Keep Off the Grass."

Torrence, Vary & Co. have purchased the hay and grain business of J. & W. W. Butman at Swampscott, Mass.

The hay and grain firm of Bieker & Lippert has become a member of the Grain, Hay and Feed Receivers' Association at Cincinnati, Ohio.

T. C. Caumissar's hay, grain and excelsior establishment at Louisville, Ky., was burned on the 14th of February. Mr. Caumissar's loss is about \$10,000, with insurance for \$5,000.

During the month of February 5,340 tons of hay arrived in Philadelphia, two-thirds of which was lower than No. 1 grade. During the same month 88 cars of straw were received.

The following have been appointed as members of the Hay and Straw Committee of the Philadelphia Commercial Exchange: G. Percy Lemont, R. Greenwood Jr., A. D. Bohmer, Wm. H. Hobson, John C. Wilson.

Byron Tyler & Co. have entered the hay trade of Seattle, Wash. Mr. Tyler had been in the hay and grain business at Kansas City for more than 10 years, and was a member of the Kansas City Board of Trade.

W. & J. Parker's warehouse at Portsmouth, Va., was destroyed on February 26 by a fire supposed to have originated from spontaneous combustion. It contained a quantity of hay and brau. On stock and fixtures there was an insurance of \$5,500.

On February 12 an incendiary set fire to the hay press, warehouse and chop mill of Horace Reigner at Pottstown, Pa. Mr. Reigner's residence was also almost entirely burned. He places his loss at \$10,000, with insurance to about three-fourths this sum.

The low prices that have prevailed at Philadelphia all winter on large baled straight rye straw still continue. Most of the supply comes from near-by points in New Jersey, where there is a low freight, as otherwise it would not be profitable to ship at present prices—\$7.50 to \$8 per ton being the top price.

A bill has been introduced into the Ohio Legislature making it unlawful to put good and bad hay in the same bundle, or to introduce any foreign substance in the bale by which the purchaser is defrauded, and providing penalties for its violation. This measure is said to meet with the hearty approval of dealers everywhere.

The A. G. Wells Co.'s hay press and warehouse at De Pere, Wis., was recently destroyed by fire. It was caused by the accidental upsetting of a lantern by a man engaged in loading hay. The warehouse contained besides the machinery about 50 tons of hay and 150 barrels of flour, on which there was no insurance. The building was insured for \$1,000.

The Secretary of Agriculture has recently imported from Russia seeds of a number of forage plants, including smooth Brome grass, Turkestan alfalfa, Russian clover, giant Brome grass, sand or hairy vetch, a millet and English blue grass. These are being distributed in different sections of the country, where the results can be carefully watched. Gov. Smith of Montana has received 35 pounds of smooth Brome seed which it is believed will prove particularly adapted to that state, both for hay and pasturage.

Whether or not you attend the next annual convention of the National Hay Association in Buffalo on August 9, you ought to become a member of that organization if you are in any way interested in the hay business. There are many matters of importance to the whole trade that arise from time to time which individuals or firms cannot or will not undertake. Organized effort alone can accomplish the desired results. The membership fee of \$3 per year should not keep any receiver, baler, or shipper

from sending in his application to the secretary, F. F. Collins of Cincinnati, Ohio.

Cincinnati hay dealers have received so many protests from their customers against the "hay trust" which was formed at Detroit on February 24, that they have protested to the National Hay Association, asking its cooperation to prevent the carrying out of the purposes of the newly formed hay combine.

Gov. Lowndes of Maryland has recommended that the three hay scales now operated by the state, in Baltimore, be sold, as the baling of all hay for shipment and the increase in the number of private scales render them no longer a real necessity. This leads the Baltimore American to discourse at considerable length on "the passing of the hay scales."

The Hay Committee of the Philadelphia Commercial Exchange, at a recent meeting, elected G. Percy Lemont as chairman, and Wm. H. Hobson secretary and treasurer. The committee decided to settle differences arising from a question of grade, and to issue certificates showing grade. The committee expects to be able to report at the end of the year an improvement in the hay and straw business.

On February 25 the main building of the Mississippi Valley Hay & Grain Co. in North St. Louis, Mo., caught fire in some unknown manner and was quickly destroyed. It was a frame building, 103x500 feet, covered on top and sides with corrugated iron. It was valued at \$12,000, and insured for \$10,000. It contained about 150 carloads of baled hay, mostly timothy. It ranged in value, it is said, from \$75 to \$100 per car, and belonged to various parties, hence the amount of insurance is not known. The warehouse will probably be rebuilt at an early date.

Some thirty hay shippers met in Detroit on February 24 and took the preliminary steps toward organizing the American Hay Co., which is commonly referred to now as the hay trust. The Allen-Lipe Co. of Chicago is credited with being the originator and promotor of the plan. The capital stock of the company, which has incorporated under the laws of West Virginia, is placed for the present at \$1,000,000. All the shippers of the Central Western states are to be included, as far as possible, as stockholders. The company will exchange stock for all their property connected with the hay business. Headquarters and a large warehouse will be established probably at Buffalo, and sales offices opened in the principal New England cities. A second meeting will occur at Toledo on the 15th to elect officers and complete plans. The promoters claim the object of the organization is to increase the profits of the individual shippers by economizing in shipping, handling and selling expenses. All dealers do not look upon this plan in the light it is presented to the public by the organizers. The Cincinnati dealers in particular say that it is a plan to control the market for a single point, and have branded it as a direct violation of the anti-trust laws.

REVIEW OF CHICAGO HAY MARKET.

The prices ruling for hay in the Chicago market during the last three weeks, according to the Daily Trade Bulletin, were as follows: During the week ending February 19 the receipts of hay were 3,614 tons, against 4,059 tons for the previous week. Shipments for the week were 175 tons, against 203 tons for the previous week. A quiet and dull market was experienced throughout the week. The arrivals were only moderate, but the demand was light from all sources. At the extreme close a steadier feeling prevailed. Sales of Choice Timothy ranged at \$8.50@9.00; No. 1, \$7.50@8.50; No. 2, \$7.00@7.50; Not Graded, \$5.50@7.00; Choice Prairie, \$7.50@8.00; No. 1, \$6.00@7.00; No. 2, \$5.00@5.50; No. 3, \$4.25@5.00; No. 4, \$3.00@4.25; Rye straw sold at \$5.50@6.00; wheat straw at \$4.00@4.50, and oat straw at \$4.25@4.50.

During the week ending February 26 the receipts were 2,798 tons, against 3,614 tons for the previous week. Shipments for the week were 172 tons, against 175 tons for the previous week. During the early part of the week the market ruled dull. The offerings were only moderate, but the demand was light, buyers holding off and purchasing very sparingly. Later the arrivals fell off very materially and the inquiry became quite good, especially for choice grades of timothy and the medium and low grades of Prairie Hay. Sales of Choice Timothy ranged at \$8.75@9.50—outside for fancy; No. 1, \$8.00@8.75; No. 2, \$7.00@7.50; No. 3, \$6.75; Not Graded, \$5.00@7.50; Choice Prairie, \$7.50@8.00; No. 1, \$6.00@7.00; No. 2, \$4.00@6.00; No. 3, \$5.00; No. 4, \$3.00@4.00. Rye straw sold at \$5.50@6.00; wheat straw at \$4.25, and oat straw at \$4.00.

During the week ending March 5 the receipts were 3,644 tons, against 2,798 tons the previous week. Shipments for the week were 234 tons, against 172 tons for the previous week. A good local inquiry existed for both Timothy and Prairie Hay during the week. The arrivals were larger, but the demand was sufficient to absorb the offerings. The inquiry on shipping account was also a little more active. Several cars of choice Kansas Prairie were received during the week, the prices ruling warranting shipments to the Chicago market. All consignments met with ready sales. Sales of Choice Timothy ranged at \$9.00@10.00; No. 1, \$8.25@9.00;

No. 2, \$7.50@8.00; No. 3, \$7.00; Not Graded, \$7.50@8.00; Choice Prairie, \$7.50@9.00, and fancy Kansas, \$9.50; No. 1, \$6.50@7.50; No. 2, \$5.00@6.00; No. 3, \$3.62½@5.25. Rye straw sold at \$5.50@6.00, and oat straw at \$4.50.

Items from Abroad

Serious bread riots have recently occurred at Gallipoli, Turkey.

A late cable dispatch from Rosario says that the Argentine surplus estimates have been reduced to 24,000,000 bushels of wheat.

During the seven weeks ending February 17 Argentina shipped to European ports 8,112,000 bushels of wheat, and 9,328,000 bushels of corn.

Austria-Hungary imported 4,493,200 bushels of wheat from Aug. 1 to Dec. 31, 1897, and exported 29,920 bushels during the same period.

During the six months ending with January the net imports of wheat into Germany were 15,096,000 bushels, compared with 29,040,000 bushels for the corresponding period of the preceding season.

Baltimore shippers particularly will be interested in knowing that the Paris grain firm of Goldstueck, Hainze & Co. have established a branch office at Copenhagen, which will have oversight of cargoes arriving at Danish and Scandinavian ports.

According to recent official reports the rice-producing areas of British Burmah are 5,528,837 acres, which is 304,775 acres in excess of last year. It is estimated that there will be available for export 1,900,000 tons of cargo rice, equivalent to 32,203,400 hundredweight of cleaned rice.

During January Belgium imported 2,090,400 bushels of wheat, and exported 545,240 bushels. The imports for the six months ending with January were 22,397,200 bushels, and the exports 5,699,840 bushels, which is almost the same as the imports and exports for the corresponding period of the preceding year.

The estimated yield of wheat for Australasia, not including New Zealand, according to official returns, was 23,750,000 bushels. The food requirements of the colonies raising this amount are estimated at 21,000,000 bushels, and 3,500,000 bushels more needed for seed. This leaves no surplus for export.

Recent cablegrams from Madrid state that the scarcity of grain and the manipulations of the market by speculators have produced a dangerous situation. The market price of wheat is equivalent to \$2.80 per bushel, which gives a profit of \$1 per bushel to the Barcelona syndicate which has cornered the market. The Cabinet Council has made a slight reduction of the duty on corn.

The estimate of the wheat crop in New South Wales, Australia, by the government statistician is as follows: Area harvested for grain was 938,251 acres, or 72,139 acres more than in 1896; the produce is reckoned as 9,745,377 bushels, or 10.4 per acre; surplus, 345,000 bushels. In Victoria, according to the Australasian, the yield from 1,580,000 acres is only 4.7 bushels an acre, or 7,437,000 bushels in all; this allows of a surplus of 337,000 bushels, instead of 1,000,000 bushels as recently estimated.

As this is the month in which the export movement of wheat crop of India begins, it may be interesting to note the quantities which that country has exported during some crop seasons of the past. In 1887-88 it exported 13,538,169 hundredweights (of 112 pounds each), while in 1891-92 the exports reached the high figure of 30,303,425 hundredweights, falling back in 1894-95 to only 6,887,791 hundredweights; in 1895-96 they were 10,002,912 hundredweights, and last season, 1896-97, 1,910,553 hundredweights.

According to Consul Dickey at Callao, Peru, only one cargo of wheat has been shipped to that country from the United States in four years, and that was sent last October from San Francisco. He says: "The total import of Chilean wheat into Peru during the year 1897 amounted to 22,613,723 kilograms (\$17,570 bushels). These figures show that Chile supplies the Peruvian markets with wheat and flour. But why Chile and not the United States should supply the Peruvian markets when our products are far superior to those of Chile, I do not know, unless it is due to the very low freights charged by sailing vessels carrying wheat from Chile, which I am told are only 4 soles (\$1.69) a ton."

BOOK NOTICES.

LUBRICANTS, OILS AND GREASES.—This is a handy little manual just issued, in which lubricants, oils and greases are treated theoretically and practical information given regarding their composition, uses and manufacture. It is intended as a practical guide for manufacturers, engineers and users of lubricants. The author is Iltyd I. Redwood. It is provided with four tables, giving viscosity and specific gravity, atomic weights, origin, tests, etc., and action of oils on metals. It makes a neat volume of 60 pages in 12mo cloth. The publishers are Spon & Chamberlain, 12 Cortlandt Street, New York. No price is given.

ELEVATOR

GRAIN NEWS

An elevator will soon be built at Barnett, Ill.

H. C. Clark's elevator at Colfax, Ind., is completed.

F. D. Voris is erecting a four-story elevator at Neoga, Ill.

Wm. Humphrey will build an elevator at St. Charles, Ill.

Geo. Warren is about to build an elevator at Milledale, Ill.

Albert Buchholz has decided to build an elevator at Melvin, Ill.

Improvements are being made in the elevator at Piper City, Ill.

W. B. Garard has sold his elevator at Basco, Ill., to J. V. Manussier.

Jas. Taft's new elevator at Oak Grove, Mich., is now open for business.

It is said that an elevator will be built at Newport, Iowa, this spring.

S. A. Evans has sold his elevator at Galesville, Ill., to Charles Olentine.

Wm. Hillyer is preparing to build a grain warehouse at Freeport, Ohio.

Ralph Maxfield has recently opened a grain and feed store at Guilford, Me.

W. H. Hunt has sold his grain business at Potosi, Wis., to T. F. Orton & Co.

Ed. Gorman of Monee contemplates building an elevator at Manhattan, Ill.

Joseph Tarault of Toledo has purchased H. Fouts' elevator at Antwerp, Ohio.

The elevator at Whitmore Lake, Mich., now has a feed mill connected with it.

Wm. Bowles has opened the Farmers' Elevator at James, Brown Co., S. Dak.

Sheets & Son at Botkins, Ohio, have put in a Dickey Overblast Separator.

Joseph Hermiller Jr., Ottawa, Ohio, has put in a Dickey Overblast Separator.

Jaycox Brothers are building a thoroughly modern elevator at Blairsburg, Iowa.

S. J. Miller at Millersburg, Ill., has recently put in a Dickey Overblast Separator.

S. C. Smith, the Centralia, Kans., grain dealer, is about to build a new elevator.

Marckel Bros. will erect a granary at Domerville, Defiance Co., Ohio, this spring.

C. S. Ring has contracted for an elevator to be built at once at Lockwood, Mo.

The elevators at Herndon, Kans., have lately put in Dickey Overblast Separators.

F. E. Baldwin's new warehouse at Glendale, Wis., is equipped with a grain elevator.

Chris. Williams has purchased the Shaffer & Swanson Elevator at Stratford, Iowa.

Track scales and an elevator are being erected at the new hominy mill at Paris, Ill.

Geo. C. Byers has sold his elevator at Shannon, Ill., to a Mr. Brown of Cherry Valley.

Cargill's West Side Elevator at Green Bay, Wis., is now complete and ready for use.

The Lumsden Farmers' Elevator Co. has been incorporated at Lumsden, Assiniboia.

A. D. Sprague's new elevator at Caledonia, Minn., is now completed and in operation.

Stoehr & Meyer have put in a Dickey Overblast Separator at Grundy Center, Iowa.

H. H. Steele of Golden City is about to build a first-class elevator at Everton, Mo.

Nixon & Co. have sold their elevator at Goodfield, Ill., to some grain buyers of Morton.

Each of the two elevators at Larrabee, Iowa, have put in a Dickey Overblast Separator.

L. Z. Miksch has sold his grain business at Verdi, Iowa, to Alfred Hillhouse of Havre.

At Miller City, Ohio, R. Turner & Son recently put in a Dickey Overblast Separator.

There is some talk at Ida, Mich., of a stock company being formed to build another elevator at that place.

The organization of the Farmers' Elevator Co. at Dassel, Minn., has been completed, and articles of incorporation filed. The capital stock is \$10,000.

August Johnson is president, L. E. Larson, secretary, and E. E. McGrew, treasurer.

Johnson & Nelson at Audubon, Iowa, lately purchased a Dickey Overblast Separator.

Shelby & Smith are the new proprietors of Fremont Stahl's elevator at Sheridan, Ind.

George Woods recently purchased G. A. Evans' grain business at South Acworth, N. H.

The grain business of J. F. Jewett, at Angus, Nebr., is now owned by F. Zeizer, his successor.

It is reported that Wm. Hamaicker will build an elevator at Owendale, Mich., this spring.

Frank W. Morse has succeeded Morse & Giles in the grain business at Manchester, Kans.

C. W. Moon & Son, Lakeville, Ind., are recent purchasers of a Dickey Overblast Separator.

The Rockford Elevator Co., Rockford, Iowa, has adopted the Dickey Overblast Separator.

The farmers of Neilsville, Minn., are said to be organizing a coöperative elevator company.

Louis Funk has been succeeded in the grain business at Yarmouth, Iowa, by Baxter & Fye.

Joseph Littlejohn, a farmer, will move into Lewistown, Ill., and engage in the grain business.

The organization of a farmers' elevator company is under consideration at Bellingham, Minn.

The Churchill Elevator Co. of Buffalo, N. Y., expects to build a second elevator in the near future.

It is reported that the Pinckneyville Mill Co. will build an elevator this spring at Vergennes, Ill.

J. E. McEnany has purchased the Gilchrist Warehouse and is buying grain at Waucoma, Iowa.

The United Elevator Co. will commence about April 1 to remodel its plant at Russiaville, Ind.

Hatterscheid Bros. have succeeded Peter Hatterscheid in the grain business at Corwith, Iowa.

It is rumored that Tecumseh, Nebr., will soon have a new elevator, to be built by a new company.

A Dickey Overblast Separator has been placed in the elevator of Adam Stout, Silver Lake, Ind.

The elevator at Bay City, Wis., was closed early last month on account of insufficient business.

Jacob Koll has recently installed a Dickey Overblast Separator in his elevator at Theresa, Wis.

J. W. Richards, doing a grain and produce business at Tilbury, Ont., has made an assignment.

Robbins & Stearns, Sac City, Iowa, have bought an elevator cleaner of the A. P. Dickey Mfg. Co.

The Pratt-Baxter Grain Co. contemplates making improvements on its elevator at Raymond, Ill.

G. H. Behnke, Grand Rapids, Mich., has disposed of his grain and feed business to E. C. Mangold.

Geo. Foster of Attica is said to be at the head of a movement to build an elevator at Rob Roy, Ind.

The farmers of Adams County, Nebr., have organized at Hastings the Farmers' Grain & Supply Co.

The Empire Elevator Co. at Warner, S. Dak., is putting a new stone foundation under its elevator.

The Denver Fuel & Feed Co. has been incorporated at Denver, Colo., with a capital stock of \$10,000.

R. W. Gadsden has sold his interest in the North Elevator at Dyersville, Iowa, to A. Limback & Co.

The Des Moines Elevator Co. has recently increased the capacity of its corn cribs at Tara, Iowa.

Sam Kerns of Charles City will build a 20,000-bushel elevator at Stacyville, Iowa, early this spring.

H. S. Walworth of Jerome, Mich., has recently placed some new cleaning machinery in his elevator.

The Lexington Roller Mill Co., Lexington, Ky., contemplates the erection of a 150,000-bushel elevator.

Geo. Menagh of Denison, Iowa, has added a second Dickey Overblast Separator to his elevator equipment.

George H. Hay & Son of Creston have purchased and will operate the elevator at Chippewa Lake, Ohio.

M. & J. McLaughlin & Co. are now buying grain, beans, etc., in their new brick elevator at Jackson, Mich.

A feed mill has recently been added to the equipment of the O'Neill Grain Co.'s elevator at Wabasha, Minn.

Tuchscherer & Schelegel, who recently purchased the Banner Flour Mill at Menasha, Wis., expect soon to build a commodious elevator in connection therewith.

H. Clayton White of Silverbrook, Del., found two men leaving his warehouse one night recently with bags of corn on their backs. He called to them to drop their booty, but they only ran, and when Mr. White was about to capture one of them, he turned

and shot at Mr. White, who then made a hasty retreat.

F. E. Goodell & Co., Buda, Nebr., have sold the grain elevator portion of their business to D. Wort.

Sykes, Hodge & Arnold, grain dealers of North Adams, Mass., have opened a large branch store at Athol.

D. D. Hartnett has sold his interest in the grocery and grain firm of D. M. Hart & Co. at Weatherford, Texas.

John Cronan & Co., Rose Creek, Minn., have put a Dickey Overblast Separator in one of their new houses.

The Little Rock Mill & Elevator Co., Little Rock, Ark., has incorporated with a capital stock of \$50,000.

The Kingston & Montreal Forwarding Co. is building a big elevator and warehouse at Coteau Landing, Quebec.

R. J. Thompson has opened business at Innisfail, Alberta, as grain buyer for Brackman & Ker of Edmonton.

Marston & Larson at Lake Crystal, Minn., are now operating a new Dickey Overblast Separator in their elevator.

Gid Yocher purchased the grain warehouse of Fett & Co. at Bluffton, Ohio, and took possession March 1.

It is reported that J. E. Van Gilder and W. H. Pickerell are to build a 4,000-bushel elevator at Webber, Kans.

R. Messersmith has taken charge of the Long & Son Elevator at Savoy, Ill., which he recently purchased.

It is reported that T. Koenigsmark will build a large storage elevator near his mill at Waterloo, Ill., this spring.

Charles M. Cole has sold his interest in the grain business at Westbrook, Me., to his partner, John Lawrensen.

J. L. Moats took charge March 1 of the elevator at Hiron, Ohio, which he recently purchased from C. P. Scheid.

Chas. L. Belrose has purchased A. K. Knapp's elevator at Wedron, Ill., and it is now in charge of Lew Belrose.

Keys & James of Pana, Ill., have opened a branch grain office at Tower Hill, which is in charge of a Mr. Hughes.

Philip Rahm of New Orleans, La., recently purchased a No. 61 rice scourer from the Barnard & Leas Mfg. Co.

The Spencer Grain Co. has closed its elevator at Elm Springs, S. Dak., for the present, owing to the scarcity of grain.

J. M. Burgner and A. T. Reat will build a small elevator at Charleston, Ill. It will be operated by an electric motor.

The Cereal Supply Co. at Warren, Ohio, has commenced the erection of a three-story grain warehouse 30x40 feet.

C. C. Bender has put in a Dickey Overblast Separator for all kinds of cleaning in his new elevator at Spencer, Iowa.

The firm of Gardner & Koto has succeeded S. C. Gardner in the grain and hardware business at Forest City, Iowa.

Peter Ehlers is tearing down the old Mill Elevator at Minden, Iowa, and will at once replace it with a new and better one.

Ruple & Starz have traded their elevator and mill at Mt. Pulaski, Ill., for 1,169 acres of land, located in Iowa and Kansas.

E. W. Finch of Talbot, Ind., has purchased an elevator at Veedersburg, and is about to move there and take charge of it.

John H. W. Habekost has purchased a grain warehouse at Carlinville, Ill., and is considering the plan of building an elevator.

The Amenias & Sharon Land Co., of Amenias, N. Dak., is using a new warehouse cleaner of the A. P. Dickey Mfg. Co.'s make.

W. D. Girard of Grand Rapids, Mich., contemplates building a grain elevator and potato warehouse at Casco, Wis., this spring.

Marshall & Hammel have completed a warehouse at Little Chute, Wis., where they will buy grain and produce and deal in flour.

Metzger & Co. have sold their elevator at Nevada, Ill., to the Pope & Eckhardt Co. of Chicago. Austin Gibbons will continue in charge as buyer.

The A. P. Dickey Mfg. Co.'s Cleaners have lately been placed in elevators at Cromwell, Bussey, Victor, Dallas Center, Odebolt and Clemons, Iowa; New York City; Plain City and Elmwood, Ohio; Ellinwood, Kans.; Peterson and Wood Lake, Minn.; Diet-

rich, Ill.; Neenah, Wis.; Schoolcraft, Mich., and Spain, S. Dak.

W. P. Dixon has opened a warehouse at Ligonier, Pa., in charge of T. J. Laughery, and will buy grain and hay and also sell feed.

Following the death of Mr. J. E. Just, the grain and banking firm of J. E. Just & Co. at South Lyon, Mich., made an assignment.

The Crescent Grain Co. of Bloomington, Ill., will immediately rebuild the elevator at Colfax, which was burned on February 16.

Work has been commenced on the foundation of the Grand Trunk Railway's 1,000,000-bushel elevator at Midland, near Toronto, Ont.

The Sehlinger Grain Co. of Belleville, Ill., has put in scales at Rentchler and New Memphis, and will build an elevator at Mascoutah.

W. L. Ferguson has bought a creamery building and engine at Benton, Iowa, and will remove and remodel it into a grain elevator.

The W. W. Cargill Co. of La Crosse is building a 12,000-bushel elevator at De Pere, Wis. It will be operated by a gasoline engine.

The Commercial Milling Co. will build a grain elevator in the rear of its mill at Detroit, Mich., for receiving grain for the mill's use.

A. H. Hawk has purchased C. Rowland's interest in the elevator and stock yards at Lanark, Ill. Mr. Hawk is a veteran in the business.

W. M. Porterfield has bought the elevator of Dickinson & Foohy at Ivesdale, Ill., and has succeeded to the firm's business at that point.

Dr. Johnson is said to be considering the erection of an elevator at Almira, Wash., this spring, which would make the fifth in that town.

The 60,000-bushel steel tank elevator being built at Bellefonte, Pa., by W. F. Reynolds, in connection with his flour mill, is nearly completed.

A. W. Hagerman has placed in his elevator at Mondamin, Iowa, a No. 3 Cornwall Corn Cleaner made by the Barnard & Leas Mfg. Co.

M. E. Culver has built a new and larger elevator on the site of the old plant at Crane, Ind., on the O., C., C. & St. L. Ry., near Lafayette.

H. H. & T. H. Graham of Pinewood, Tenn., write us that they contemplate erecting a small elevator, and are in the market for machinery, etc.

The Ashland Elevator Co. at Ashland, Ill., has been incorporated by H. B. Baxter, J. C. Barker and Noah Smith. The capital stock is \$6,000.

L. S. Boynton has sold his grain business at Russell, Mass., to Alfred Keeler. He will remain with the business, in the employ of Mr. Keeler.

On account of the elevator which he rented being sold, S. C. McCormick has quit buying grain at Adrian, Ill., and has gone to Denver, Colo.

Dickey Overblast Separators have lately been placed in elevators at Dexter, Alden, Wells and Winnebago City, Minn., and Beaman, Iowa.

The Crescent Grain Company has recently placed an order with the Webster Mfg. Co. for a gasoline engine for their new elevator at Colfax, Ill.

The Farmers' Elevator at Sheldon, Ill., handled 350,000 bushels of grain last year, and the business for eleven months netted a profit of \$2,400.

H. Bedford of Bee, Nebr., has recently erected a new elevator at that place. The order for the machinery was placed with the Webster Mfg. Co.

Col. C. E. Grace has rented the elevator at Elmwood, Ohio, owned by his brother-in-law, the late Lemmel Boggs, and will continue the business.

The machinery for W. B. Sill's new elevator at Harris, Ill., was furnished by the Webster Mfg. Co. The outfit includes a Webster Gasoline Engine.

The E. H. Pease Mfg. Co. of Racine, Wis., was a recent purchaser of a Little Victor Corn Sheller and Cleaner from the Barnard & Leas Mfg. Co.

A Victor Corn Sheller and a Cornwall Corn Cleaner were recently sold by the Barnard & Leas Mfg. Co. to the Frost Mfg. Co. of Galesburg, Ill.

It is said that Thos. A. Galt of Rock Falls, Ill., contemplates starting a factory to manufacture feed from corn fodder, both with and without the ear.

The Interstate Grain Storage Co. of Fostoria, Ohio, has filed an amendment to its articles of incorporation, changing its location to Toledo, Ohio.

Marsh & Co. have purchased for their elevator at Willow Branch, Ind., a No. 0 Victor Combined Sheller and Cleaner, from the Barnard & Leas Mfg. Co.

The Charleston Grain & Feed Co. at Charleston, W. Va., has been incorporated by Chas. C. Lewis, R. G. Hubbard, C. C. Lewis Jr., J. W. Hubbard and Julius Staehlin. The authorized capital is \$10,000.

A wholesale grain and feed business will be conducted.

The Illinois Elevator Company of West Virginia, capitalized at \$500,000, has been licensed to do business in Illinois under a capitalization of \$150,000.

O. P. Le Comte & Co., Concordia, Kans., have added to their elevator equipment a Victor Corn Sheller purchased from the Barnard & Leas Mfg. Co.

The Mountain City Mill Co. is about to build a large elevator at Chattanooga, Tenn. It will stand in the center of the Western & Atlantic Railroad yards.

Tanner, Hamilton & Co., Pittsfield, Mass., have let the contract for a grist mill and 6,000-bushel elevator. The machinery will be operated by electricity.

The Planters' Gin & Oil Co. of Sherman, Texas, has been incorporated with a capital stock of \$50,000, by H. J. J. Thiessen, and George and Thomas Christiansen.

W. T. Barstow of Ord has purchased M. P. Harrison & Co.'s grain and stock business at Arcadia, Nebr. Mr. Harrison will remove to Lincoln after April 1.

An elevator of 30,000 bushels' capacity is to be built at East Grand Forks, Minn., to replace the Minneapolis & Northern Elevator, which was burned in January.

The Liberty Mills of Nashville, Tenn., have recently put in a new set of Clark-Beatty Grain Shovels. The order was placed with the Webster Mfg. Co.

The Minnesota and Dakota Elevator Co. of Minneapolis has filed amended articles of incorporation increasing its capital stock from \$300,000 to \$500,000.

The Farmers' Grain & Live Stock Co. which was organized last fall at Juniata, Nebr., has purchased G. G. Vreeland's elevator and took possession March 1.

Prof. W. D. Kuhn of Campbell University, has purchased J. G. Elliott's elevator at Holton, Kans., and will hereafter devote his time to the grain business.

Fred Gannt, a grain dealer at Alton, Kans., during one week last month shipped over 10,000 bushels of wheat, and also sold 30,000 bushels of corn to feeders.

The contract for the iron work for the new elevator of the St. Louis Milling Co. at Carlinville, Ill., has been let to the Todds & Stanley Mill Furnishing Co. of St. Louis.

L. F. Miller & Sons of Philadelphia, Pa., have completed improvements in their elevator machinery, increasing their elevating capacity to 30,000 bushels in 12 hours.

F. H. Mealiff has leased the Michigan Central Transfer Elevator at Kensington, Ill., formerly operated by John Walker, who was at one time weighmaster at Chicago.

J. R. Lamme has disposed of his interest in the grain business and elevator at Winfield, Iowa, to his partner, Mr. Van Dyke, and will go to raising grain instead of buying it.

Chas. Talmage has purchased the grain business of Thomas Murray at Monroe, Iowa. Mr. Murray gave possession at once, but will remain with the business until spring.

J. Vaugrundy & Son's new elevator at Macon, Ill., was started on February 22. It is a well equipped plant, and stands on the site of one that was burned but a short time ago.

The Davenport Elevator Co. closed its elevator at Bushnell, S. Dak., last month, as not enough grain remains to be marketed there to pay the expense of keeping the house open.

Frank McCall, of the milling and grain buying firm of J. E. Burgner & Co., Elmcreek, Nebr., has sold his interest to B. H. Goodell. Improvements will be made in the plant.

The Duff Grain Co. of Nebraska City, Nebr., will build an elevator this spring of 100,000 bushels' capacity. It will also have a handling and cleaning capacity of 75 cars per day.

The grain firm of Strant Bros. at Hartford, Conn., will dissolve April 1. Frank C. will continue the business at the old stand, while Geo. W. will establish himself in a new location.

Mr. Churchill of Toledo, Ohio, has taken charge of the Lake Shore & Michigan Southern Railway transfer elevator at Englewood, Ill., formerly operated by Lasier, Hooper & Co.

It is said to be practically settled now that the Consolidated Elevator Co. of St. Louis will soon rebuild the Union Elevator, which was destroyed by fire a few weeks ago, at East St. Louis, Ill. As the location is the best of any owned by this com-

pany, so will the new house be ahead of any of its present houses.

Drawings for the steel elevator to be built in Detroit, Mich., by the Commercial Milling Co., have just been completed by D. A. Robinson of Chicago.

The machinery required in the new freight house of the Great Northern Railroad at West Superior, Wis., is to be put in by D. A. Robinson of Chicago, the well-known elevator builder.

G. B. Griffin has secured permission from the Big Four Railroad to change the location of his elevator at Charleston, Ill. He may decide to put up a new building on the new site.

Jacob Reaser recently sold a half interest in his elevator at Port Clinton, Ohio, to Oscar Biese. The new firm is known as Reaser & Biese, and will deal in hay and flour as well as grain.

It is reported that the Louisville & Nashville Railroad will build a large elevator at New Orleans, La., in the near future. J. G. Metcalf of Louisville, Ky., is the general manager of the road.

At Colfax, Wash., on February 19 350,000 bushels of wheat changed hands. The Pacific Coast Elevator Co. bought 200,000 bushels, which is said to be the largest sale ever made there.

N. J. and Amos J. Thorstenberg of Lindsborg, Kans., have purchased an interest in the Murphy Grain Co. of Kansas City, but will continue to conduct their grain business in Lindsborg.

On March 1 the firm of Stahl & Cook, proprietors of the Star Elevators at Fremont, Ohio, were succeeded by the firm of Gottron & Cook, composed of John F. Gottron and Harvey M. Cook.

The Farmers' Milling Co. has been incorporated at Conover, N. C., to conduct a general milling and grain business. The capital stock is \$3,500. D. P. Dellinger is at the head of the company.

The Bartlett & Dennis Co. has been organized at Gardiner, Me., to deal in flour, grain, seeds, etc. The capital paid in is \$24,000. Wm. M. Bartlett is treasurer, and David Dennis, secretary.

The Dwight Grain Co. has been incorporated at Chicago to deal in grain. The capital stock is \$10,000, and the incorporators are Clark B. Samson, Henry S. Wilcox and William C. Wood.

Owing to the disagreement of the partners in the grain elevator firm of Daub & Andrews at Millersville, Ohio, J. L. Weaver has been appointed as receiver, in accordance with Mr. Daub's petition.

Benson Bros. of Colfax took possession March 1, under a short lease, of Henry Hastings' elevator at Cooksville, Ill. Mr. Hastings rented his plant in order to give him time to make a tour of the West.

David Stott's Flouring Mills of Detroit, Mich., has erected a new elevator and warehouse to supply the retail trade of that city. The elevator machinery and supplies were furnished by the Webster Mfg. Co.

During one week in the latter part of last month, the Hagey & Moore Elevator, and the elevator of E. W. Finch, at North Liberty, Ind., received 17,500 bushels of wheat, for which \$1 or more per bushel was paid.

The old mill building at Dexter, Iowa, formerly owned by Harrington & Percy, will be removed to Anita by Mrs. M. F. Percy and reconstructed into an elevator to replace the one which burned on February 9.

B. F. Herrington's elevator at Wanbay, S. D., was broken into recently and a load of wheat and flax taken. In the morning the wagon was easily tracked for 20 miles, and officers brought back the two alleged thieves.

The New Era Iron Works of Dayton, Ohio, has installed a 60-horse power gasoline engine in the Harris Milling Co.'s mill at Three Rivers, Mich., and a 60-horse power engine in the flour mill at Evans City, Pa.

J. T. Johnson and W. W. Baker have purchased such interests in the flour mill at Rockport, Mo., as are not owned by R. Grebe. The mill will be moved to a more desirable location, and an elevator built in connection with it.

At the annual meeting of the stockholders of the James Whitney Elevator & Warehouse Company, Rochester, N. Y., the following directors were elected: James Whitney, H. R. Gilbert, H. A. Howard, and C. H. Gibson.

It is reported that the Burlington Railroad at Kansas City, Mo., is figuring with some prominent grain firms relative to building an elevator of some 700,000 bushels' capacity on its terminal property south of the Kansas City Stock Yards.

The Farmers' Coöperative Society of Rockwell, Iowa, held its tenth annual meeting on March 5. The past year was the best in the history of the society. Over half a million bushels of grain were handled. The total volume of business transacted

was \$265,011.24, which was done at an expense of but \$2,460. President Norman Densmore was presented with a gold watch, and James Brown elected as his successor.

The annual meeting of the C. H. & D. Elevator Co. was held recently at Cincinnati, Ohio, and a dividend of 5 per cent. was declared. It was the first dividend ever made by the company. The elevator is managed by Col. L. L. Latta.

It is reported that the Des Moines Elevator Co. is looking into the merits of the steel storage tank system, and if found to be satisfactory, the 200,000-bushel plant which the company is soon to erect at Des Moines, Iowa, will be of that style.

M. B. Helmer of Fond du Lac, Wis., is about to build an addition to his elevator with a capacity of about 40,000 bushels. Many improvements were made in his present plant only a year ago, and his increasing business demands this enlargement.

The cash drawer and safe in the office of the Crocker Elevator Co. at Maroa, Ill., have been robbed every few nights for some time. Finally E. P. Bowden laid in wait for the thief, who proved to be a young man of the town, and his capture was easily effected.

S. W. Flower & Co., the seed merchants of Toledo, Ohio, have moved into their new warehouse on Lafayette Street, near the Clover Leaf Railway. The premises on Water Street formerly occupied by them have been leased by the grain firm of J. J. Coon & Co.

Hagey, Moore & Co. of North Liberty, Ind., recently placed an order with the Webster Mfg. Co. for the machinery necessary for making changes in their elevators. New conveyors and elevators were added, and their plant is now fitted to handle grain quickly and economically.

A newspaper correspondent of Dallas Center, Iowa, says there is a splendid opening in that town for another grain dealer. The one firm there handles grain, tile and coal, and it is said that competition would bring more trade to each of two dealers than is at present enjoyed by one.

Articles of incorporation were filed on February 15 by the Chalfant-Burrough Grain & Bran Co. of Kansas City, Mo. The capital stock is \$2,000 fully paid up. The stockholders are J. C. Edwards, R. E. Kidder, Frank P. Chalfant, Philip E. Burrough, and John Kelley. The latter is of Leavenworth, Kans.

Joliet, Ill., is a large grain transfer point, and its importance as such has greatly increased during recent weeks. In one week recently between 1,200 and 1,500 cars were loaded with grain (mostly corn) for shipment to Eastern seaports. Larger shipments than this are now under way, and day and night forces of men are employed at the elevators.

What is called a Board of Trade for the San Luis Valley has been organized at Monte Vista, Colo., to promote industrial enterprises in the valley, secure better transportation, and encourage the building of additional mills and grain elevators. James A. Kelly of Monte Vista is secretary. The first work proposed by the directors is to secure a market for the large surplus oat crop of the valley.

The United States Sugar Refining Co., in which the grain commission house of Bartlett, Frazier & Co. of Chicago is heavily interested, has taken possession of the sugar refinery plant at Waukegan, Ill. It is said that the plant will be modernized, and within 60 or 90 days will be in operation with a capacity of 15,000 bushels of corn daily. Geo. W. Lamb, the new manager, is now located at Waukegan.

The Chicago Railway Terminal Elevator Company recently made extensive improvements in both the Galena and Air Line elevators. New clipping and cleaning machinery has been added in both houses. A special feature of this equipment is the way in which the different machines are driven. Each machine is operated direct from line shaft with a special rope drive connected with friction clutch. The entire equipment of cleaning machinery, line shafting, rope drives, clutches, elevators, etc., was furnished by the Webster Mfg. Co.

Edwin Metzger, who went from Chicago to Dwight, Ill. some three or four years ago and engaged in the grain and banking business, has failed. He made an assignment to the Pope & Eckhardt Co., Chicago, and has not since been seen. He owned two elevators at Dwight, one at Nevada, and rented one at Blackstone, and also at Campus. He paid high prices for grain, and by operating through his own bank could do a large business on a comparatively limited capital. He had the confidence of the farmers, and they are the heaviest losers by the failure. The assets are thought to be about \$5,000, with liabilities of about \$15,000.

An Ohio dealer who imported choice White Banner Oats from Northern Ontario for seed says they gave a yield of 60 bushels per acre the two first years and 50 bushels an acre last year without any fertilizer.

WATERWAYS

The total exports of grain from the port of Galveston, Tex., for the week ending February 26 amounted to 308,000 bushels of wheat and 608,686 bushels of corn.

G. H. Chapin, owner of one of the large elevators at Buffalo, N. Y., is the author of a very interesting treatise on the canal problem. It was prepared by him at the request of the Society of American Civil Engineers. Mr. Chapin has made a study of the canal matter for some years, and is well qualified to write of it from a business man's standpoint.

The Senate Judiciary Committee of the New York Legislature has taken no action on the proposed constitutional amendment to turn the Erie Canal over to the federal government, and it is understood that a concurrent resolution submitting to the people the proposition that \$7,000,000 more be appropriated in order to carry on the improvement of the canal will be introduced in the Legislature.

The Chicago River Improvement Association expects much good to result from the recent visit of the Congressional Committee to the docks and elevators along the river. The Association desires the establishment of a uniform depth of twenty-one feet from the mouth of the Chicago River to the intersection of the drainage canal in the south branch and to Goose Island in the north branch, and has asked Congress to dredge the harbor deep enough for the largest lake vessels.

The new steel steamer William R. Linn, the largest grain carrying boat on the lakes, was launched March 5. With the present draft of water it will carry 6,000 tons, and with the completion of the 20-foot channel the capacity will be increased another 1,000 tons. The dimensions of the boat are: Length over all, 420 feet; keel, 400 feet; beam, 48 feet; depth, 28 feet; water bottom, 4½ feet. It was named after the well-known grain dealer and Board of Trade man of Chicago, William R. Linn.

The Canadian-Atlantic Line recently organized with headquarters at Ottawa, Ont., has leased five steamers of the Menominee Transit Co., and will operate them between Duluth, Chicago and Parry Sound, Ont. The company owns an elevator and terminal facilities at Parry Sound, and at that point the grain and package freight handled by the company will be transferred. The steamers were originally built for the coal and ore trade, and will be fitted up for the grain trade by the Menominee Transit Co. before they are turned over to the new line. The steamers will be delivered to the Canadian-Atlantic Company May 1. The company expects to build a new elevator at Parry Sound in the future.

The deep waterway problem is still receiving attention, and considerable alarm has been felt of late over the apparent attempt made by certain New York interests to turn the Erie Canal over to the federal government. It was thought this would head off the movement for a deep water canal from the great lakes to the ocean as it is proposed to have the Erie Canal enlarged and deepened sufficiently to admit of barges larger than the present canal boats, but not sufficiently to allow the passage of ships of the largest size. As the matter now rests, the grain interests of the Northwest contend that if the government takes over the Erie Canal, it should take it with the understanding that it be made a genuine deep waterway. If it is to remain only a canal for canalboats then New York state should keep it.

The Canadian Government has been petitioned to guarantee the bonds of the St. Clair & Erie Ship Canal Company to the extent of 3 per cent. interest charges for 20 years on an issue of \$5,500,000. Its promoters claim that by this canal the distance between Lakes St. Clair and Erie could be shortened by 79 miles, thus avoiding the delays and dangers of the Detroit River route, and lessening the cost of transportation between Fort William and Lake Erie. The government would not be expected to pay any of the interest guaranteed, as provision would be made for such payment during construction, after which the tolls on less than one-third of the tonnage now passing through the Detroit River would pay the interest on the bonds and all expenses of maintenance and operation.

G. W. Aldridge, superintendent of public works of New York, in his annual report gives the number of boats which navigated the Erie Canal during the last season at 2,322, of which 1,117 carried grain. Supt. Aldridge stated that the season did not prove a prosperous one for boatmen, and that the rates were so low that many individual boatmen preferred to tie up their boats rather than operate them at the prevailing prices. He gave as reasons, the rapid deterioration of the canals during the last several years previous to the beginning of the general improvement; to the little or no improvement which has been made in the adaptation of canal boats and methods of traction on the canals during the last forty years, and to the excessive terminal charges in the harbors of Buffalo and New York. Concerning these excessive charges he said: "While I am not prepared to go to

the extent of advocating a scheme whereby the state shall enter the field as an active competitor of the elevator trust, I believe the abuses of the so-called combine have reached such a point in their effect upon our commercial interests that the state will be justified in taking extreme measures to render a continuance of the abuses impossible."

Last summer witnessed some very large grain cargoes carried by lake vessels. The records for the largest grain cargoes ever carried on the Great Lakes are held by the following vessels. The cargoes were all delivered at Buffalo elevators. The record for the greatest tonnage is held by the Crescent City, which carried 224,940 bushels of corn, or 6,298 tons, 640 pounds. The greatest number of bushels was carried by the Queen City, which delivered at Buffalo 331,253 bushels of oats, or 5,300 tons. The Empire City carried the largest cargo of wheat, having on board 205,360 bushels, or 6,160 tons, 1,600 pounds.

The lake carrying trade is agitating the question of improvements for the St. Joseph harbor and the Benton Harbor Canal. In view of the recent disaster to the steamer City of Duluth, which struck the dangerous bar, just outside the piers, causing the total wreck of that vessel, it is asserted that the \$420,000 asked for to improve the harbor is not in excess of the needs. Chicago business originating as far south as Wabash, Ind., is largely done at Benton Harbor. The distance to Chicago from Wabash by way of Benton Harbor and the lake, or by all-rail route from Wabash, is practically the same, with general rates much cheaper by the lake route. If the appropriation asked for is granted, it will mean that the north pier will be extended 1,200 feet, and the south pier 2,000 feet, making the mouth of the harbor 340 feet wide.

Fires - Casualties

Pittman & Harrison, grain dealers at Sherman, Texas, recently suffered a loss by fire.

The Farmers' Warehouse at Joel, Idaho, was burned February 25, destroying about 20,000 bushels of wheat.

The plant of the Toledo Cereal Co. at Toledo, Ohio, was damaged by fire on February 22 to the extent of about \$25.

E. G. Beall's grain elevator at Van Alstyne, Texas, was burned February 27. The loss is reported as \$12,000, with insurance of \$8,500.

The Ramsey Elevator at St. Marys, Kans., burned on February 19. It contained only 4,000 bushels of corn. There was \$1,000 insurance on building and contents.

The Exchange Grain Co.'s elevator at Brownston, Minn., was totally destroyed by fire on March 6. It contained 4,000 bushels of wheat and 1,000 bushels of coarse grain.

The Minnesota and Dakota Elevator at Waverly, Minn., was burned February 15, together with 800 bushels of wheat and other grain. The origin of the fire is unknown.

The interior of Wilson & Co.'s elevator at Rushville, Ill., was badly scorched by a fire on February 16. The 500 bushels of wheat in the bins was damaged by fire and water.

On February 23 fire destroyed the Winegar & Bingham grain warehouse at Mt. Morris, N. Y. It was leased by Wm. Bailor of Groveland, and in addition to the machinery contained a stock of beans, wheat, rye, and 1,400 bushels of oats. The loss is at least partially covered by insurance.

The flouring mill and elevators of E. Rutan & Co. at Belding, Mich., were destroyed by fire on February 21, said to have originated from a stove. The burned buildings contained 1,000 bushels of wheat, 1,800 barrels of flour, and 2,000 bushels of beans. The loss is reported as \$40,000, partially insured.

F. B. Waters' elevator and warehouse at Christiana, Pa., were burned on March 3. The elevator was a five frame structure 50x100 feet, with a slate roof. The contents of the buildings were 1,000 bushels of wheat, and a lot of corn, bran and feed. It is thought that the fire may have originated from a hot journal.

Jas. Richardson & Son's elevator at Sidney, Man., which was built last fall, was burned on March 1. It contained 13,000 bushels of wheat, some of which was owned by farmers. The elevator had a capacity of 35,000 bushels, and it is said, will be rebuilt this spring. Richardson & Son's headquarters are at Kingston, Ont.

Benson Brothers' elevator at Colfax, Ill., was destroyed by fire on February 16. It contained 24,000 bushels of corn, valued at about \$6,500, and insured for \$4,000. The elevator was built only two years ago, and was valued at \$3,500 and insured for \$1,300. It was recently sold to the Crescent Grain Co. of Bloomington, and was its property at the time of

the fire, although it was not to take possession until March 1. The grain belonged to Benson Bros.

A bin in Wolfe's Elevator at Lindsey, eight miles west of Fremont, Ohio, burst on the night of March 2 and let 3,000 bushels of wheat and corn onto the first floor, causing considerable damage.

R. H. Bingham's elevator at Sleepy Eye, Minn., burned early on the morning of February 17, together with his lumber yard and other business property adjoining. Mr. Bingham's loss of probably \$8,000 is covered by insurance.

The Bosch-Ryan Elevator at Cedar Rapids, Iowa, had a narrow escape from fire on the morning of March 2. A policeman discovered at 2:30 o'clock in the morning that a pile of cinders were burning and had set fire to a large wooden waste pipe connecting with the elevator. The fire department soon extinguished the blaze.

The 40,000-bushel elevator at Anita, Iowa, owned by Mrs. M. F. Percy of Dexter was destroyed by fire on February 9. J. D. Young, the manager, places the loss on building and contents at \$8,000, with insurance for \$3,500. It took considerable effort to prevent the fire from spreading to the Irving Elevator. The fire is said to have originated in the engine room.

The EXCHANGES

The Baltimore Chamber of Commerce has appointed Pierce Ryan and S. Rowe Burnett as samplers of track grain.

The Weighing Committee of the Cincinnati Chamber of Commerce has served notice that weighers' certificates must be made out only with pen and ink, and not with pencils of any character.

The following grain inspectors have been reappointed by the directors of the Baltimore Chamber of Commerce: Charles McDonald Jr., chief; Henry E. Grape, C. J. Grumbine, S. D. Thomas, Jos. Wirth, Lloyd Dorsey, John J. McNeal, Jos. J. Trabert, assistants.

The directors of the Chicago Board of Trade have issued an order prohibiting gossiping, "privilege" operating and every other sort of an attraction that will jam the passage way of the building. Members will now be compelled to "move along" together with the outsider.

A membership certificate of the Cincinnati Chamber of Commerce sold last month for \$50. This shows an increase in value, and it is predicted that ere long the price will be \$100 as certificates are canceled at the death of the owner, and new ones will only be issued upon payment of \$100.

President S. C. Woodman, of the Philadelphia Commercial Exchange, has announced the appointment of the following gentlemen as members of the Grain Committee: Edward W. Barker, Edward L. Rogers, L. G. Graff, W. B. McKnight, Geo. G. Omerly, Chas. F. Saunders, and Wm. C. Walton.

F. A. Farmer, of the Farmer Commission Co., has secured an injunction restraining the Kansas City Board of Trade from expelling him for failure to pay into the hands of the Board the amount of a disputed claim of another firm. The Board ordered that this should be done pending further investigation of the claim, and the case when brought into court will determine whether the Board has legal authority to compel such payment.

President McAllister, of the Cincinnati Chamber of Commerce, appointed a committee to confer with the representatives of the Cleveland Chamber of Commerce and the Toledo Produce Exchange with reference to the Snyder bill, which provides for a state inspection bureau. The committee consists of E. A. Grubbs, J. Parker Gale, E. W. Holt, Jos. J. Lippert and J. W. Van Leunen. The Toledo Produce Exchange was represented at the conference held at Cincinnati by President F. N. Quale, D. B. Smith, secretary, and E. B. Southworth. It is expected that Ohio grain men will be united in the effort to defeat the bill, particularly on the grounds of its costliness.

C. F. Tidwell, colored, a professional grain sampler employed by Anuan, Burg & Co. and other grain firms in St. Louis, was recently refused an admission ticket to the Merchants' Exchange of that city on the ground that he was not a regular employee of any firm, but rather in business for himself, and therefore under the rules not entitled to the ticket. Mr. Annau, in order to overcome this difficulty, purchased a membership for Tidwell, and his application has been filed and will be voted on by the directors after the 30 days' notice has expired. When it became known that a colored man aspired to membership in the Exchange, it caused considerable comment, but it is not known what action will be taken by the directors. Mr. Tidwell has since concluded to withdraw his application for membership.

Court Decisions

Contract Signed Without Reading Cannot Be Avoided.

If a person signs a contract without informing himself of the contents before signing, or taking the necessary precaution to learn such contents, he cannot avoid the contract because of his ignorance of the same.—*Norris vs. Scott*, Appellate Court of Indiana, 32 N. E. Rep., 103.

Carrier—Shipper—Favoritism—Action.

A recovery by a shipper from a carrier because of partiality and favoritism to other shippers cannot be had in the absence of statute, provided the complaining shipper has not been charged more than a reasonable rate, according to the decision of the Supreme Court of the United States in the case of *Parsons vs. The Chicago & Northwestern Railroad Company*.

Note Not a Settlement of a Debt.

The giving of a note for the price of a machine after a trial of it on one kind of grain is not a settlement for it, after having tried it, within the meaning of a clause in the contract of sale, providing that a settlement for it after having been tried estops the purchaser from all damages for breach of warranty.—*Briggs vs. Rumely Co.* (Supreme Court of Iowa), 64 N. W. Rep., 784.

Verbal Agreement of Insurance Agent Not Binding.

An oral agreement between the insured and the agent of an insurance company in regard to renewing a policy of fire insurance, in which the amount of the policy is not fixed, does not constitute a contract that is binding upon the insurance company. The sum should have been definitely fixed by the parties; as it was not there is no contract.—*Sater vs. Henry County Farmers' Ins. Co.*, 61 N. W. Rep., 209.

Carrier Liable for Full Value of Shipment.

The Supreme Court of Kansas, in a decision rendered January 8, against the St. Louis and San Francisco Railroad Co., held, that a railroad company operating in that state is liable for the full amount of the value of a shipment lost in transit or damaged, notwithstanding the usual low valuation fixed in the agreement signed by the shipper in delivering his goods to a railroad company. The company will appeal to a higher court.

Railroad Contract Limiting Liability.

The case of the Chicago, Milwaukee & St. Paul Railway Company vs. Solau, decided by the Supreme Court of the United States, involved the constitutionality of the Iowa law, rendering void any contract with a railroad company limiting liability in case of loss. In the case before the court it appeared that the appellee brought action in the state's courts to recover damages on cattle shipped over the railroad line, and secured a verdict for \$1,000 in spite of the fact that his contract with the railroad company limited the liability of the latter to \$500. The verdict and judgment of the Iowa state court were affirmed by the Supreme Court in a recent decision.

Indorsement on Bill of Lading.

The Supreme Court of Georgia held, in the recent case of the Chicago Packing and Provision Company vs. the Savannah, Florida and Western Railway Company, that when goods are shipped under a bill of lading stipulating for their delivery to the order of the consignor, an indorsement by him upon the bill of lading directing delivery to a third person, or to his order for collection, in effect makes such person the consignee, and though such bill of lading may further stipulate that its surrender shall be required before the delivery of the goods at destination, delivery by the carrier without requiring such surrender, if made to such consignee, or upon his order, or by his authority, involves no breach of duty to the consignor.

Contract—Condition—Mistake.

The Kentucky Court of Appeals held, in the case of *Vaughn vs. Dignan*, that where the parties to an agreement have made a mistake in reducing their contract to writing, either through a mistake which is mutual, or through the mistake of one party, or through the mistake of one party which has been produced by the other, courts of equity will correct the writing to conform to the manifest intention of the parties; that parol evidence is competent to establish the terms of the original agreement and to show fraud or mistake in the execution of the instrument, and that one who prevents a happening or performance of a condition precedent, upon which his liability by the terms of the contract is made to depend, cannot avail himself of his own wrong

to relieve himself of responsibility to the obligee or be permitted to avoid his liability for the non-performance of such condition precedent which he himself has occasioned.

Effect of Receiving Back Goods Wrongfully Appropriated.

It is a rule sustained by judicial decisions in this country that where one's goods are wrongfully appropriated or "converted" by another, the owner may sue for their value, or recover the property, but he cannot pursue both remedies. It is equally well settled that the subsequent recovery or return of the property or a portion thereof, or the proceeds from a sale of the same, does not extinguish the owner's right of action against the wrongdoer for the conversion, but only goes in mitigation of damages. Where goods that have been converted are returned to and accepted by the owner, the measure of damages is the market value at the time of the original wrongful taking, less the market value at the time the same are returned.—*Watson vs. Coburn*, Supreme Court of Nebraska, 53 N. W. Rep., 477.

COMMISSION

Henry Broeg & Co. have succeeded W. S. Pirie & Co. in the grain commission business at Milwaukee, Wis.

The capital stock of the Robinson-Danforth Commission Co. of St. Louis, has been increased from \$12,000 to \$25,000.

The Central Cotton, Stock & Grain Exchange of Atlanta, Ga., has been closed under attachments. It has been in operation less than a year.

The G. W. Wylie Co., doing a stock, grain and commission business at Chicago, has passed into the hands of Morton J. Stevenson, as receiver.

Owing to the death of its late president, Redmond Cleary, the Redmond Cleary Commission Co. of St. Louis will be succeeded by D. P. Byrue & Co.

W. T. Dillon has retired from the French Bros. Commission Co. of Kansas City, Mo., and his place as secretary has been filled by F. A. Doggett, a new member of the company.

Watkins & Anderson is a new firm at Buffalo, N. Y. It is composed of Geo. Watkins, who has been in business for himself for some years, and G. H. Anderson, who has been with F. J. Sawyer.

Fred O. Paddock and James Hodge, who a short time ago sold their interests in the firm of Paddock, Hodge & Co. to James H. Bowman, have formed a copartnership and resumed business on the Produce Exchange under the old firm name, which they retained at the time of the sale.

VALUABLE BOOKS FOR GRAIN DEALERS.

The following standard works will be sent, postage paid, on receipt of prices given:

Robinson's Telegraph Cipher.—The publishers have recently revised this excellent work, and we are now prepared to supply the trade. Cloth binding, \$1.50; leather.....\$2.00

Weigh Books.—Containing 125 perforated leaves with four weigh tickets and four stubs to each leaf, well printed upon good paper. The books are well bound. Copies will be mailed to any address for.....\$1.00

Clark's Vest-Pocket Grain Tables.—A very useful and handy little book for grain buyers; to be used in reducing to bushels any quantity of grain or seeds up to 100,000 lbs. Size 2½ by 8½ in., 16 pages.....50

Clark's Official Grain Dealers' and Shippers' Gazetteer.—This invaluable book contains official, corrected and revised lists of elevators, flour mills, grain dealers and shippers, track buyers and sellers, commission houses, etc., on the leading railway systems of the United States, it being issued under the indorsement and cooperation of their Freight Departments. Bound in cloth, 9x12 inches, 280 pages. Price.....\$2.00

Jennings' Telegraph Cipher and Directory to New England Trade.—A new guide to carload buying of grain throughout New England. A list of those engaged in the grain, feed and flour trade. Western grain shippers and millers wishing to do business in this territory will find this directory invaluable. The telegraph cipher has met with favor and is highly recommended by users. In fact the code part of the book is considered by many shippers superior to any other in use. It is modern and practical, a great money saver, and will prevent mistakes. Nicely bound in leather.....\$3.00

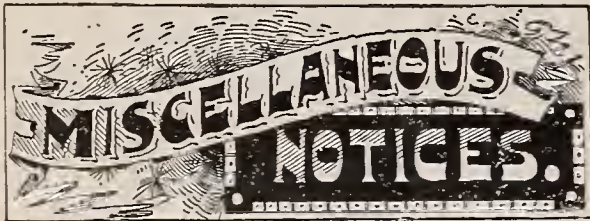
Robinson's Telegraph Cipher is designed especially for use by those connected with the grain and provision trades. The latest edition, bound in leather, with gilt edges, will be sent to any address in the United States for \$2.00; bound in cloth, for\$1.50

Adams' Cable Codex.—This code is compiled especially for sending cablegrams, and is used extensively in this country and abroad. The seventh edition, which is about to go to press, will contain 160 pages of cipher words, conveniently arranged. The code contains sentences covering and referring to buying and selling, condition of market, sterling money, United States money, business, financial matters, letters of credit, drafts, standing of firms and many sentences used by travelers. The cost of the code is a mere nothing compared with the saving which can be made on one message. Price, postpaid.....\$0.50

Davis' Grain Tables.—These tables give the value of any number of bushels of produce weighing 60 pounds to the bushel from 25 cents to \$1.25 per bushel, and the value of any produce weighing 32, 48 and 56 pounds to the bushel at 15 cents to \$1.50. The book also contains Davis' Dockage Table, which gives the amount to dock any load of wheat up to 600 bushels at 1½ to 5 pounds dockage. The book contains 219 pages of tables, printed on good paper, with large type, and well bound in cloth. The book is a new publication, and the arrangement of the tables is much more convenient than in some of the old publications. Price.....\$1.25

Clark's Grain Tables.—This work is published in several different forms, for use in different lines of business. In these tables pounds are reduced to bushels, so that a buyer can quickly determine the correct number of bushels in a load without doing any figuring. Their use effects a saving every day of more than time enough to pay for them. The edition intended principally for reducing team scale weights to bushels contains nine tables, and is bound in paper. Price 50 cents. This will be found invaluable to country buyers. A new edition, intended for shippers and commission merchants, reduces any quantity up to 64,000 pounds to bushels. It contains 16 tables, and is neatly bound in cloth. Price\$1.50

For any of the above, address
MITCHELL BROS. CO., 184 and 186 Dearborn street, Chicago, Ill.



[Copy for notices under this head should reach us by the 13th of the month to insure insertion in the issue for that month.]

ELEVATOR WANTED.

Wanted, to buy for cash a first-class elevator in Central Indiana. State full particulars, and how much grain handled in 1897. Would lease. Address
BUSINESS, Box 3, "American Elevator and Grain Trade," Chicago, Ill.

REPRESENTATIVES WANTED.

Millwrights, machinery dealers and manufacturers' agents wanted to represent us in their territory, on commission, for the sale of elevating, conveying and power transmitting machinery, mill and elevator supplies. Address

WELLER MFG. CO., 118 and 120 North Ave., Chicago, Ill.

POSITION AS SUPERINTENDENT WANTED.

Position wanted as superintendent or foreman of grain elevator, either large or small house. Thoroughly understand handling, grading and mixing of grain. Have had ample experience, and can furnish good references. Address

SUPERINTENDENT OR FOREMAN, Box 3, "American Elevator and Grain Trade," Chicago, Ill.

POSITION WANTED.

Wanted, position as manager, superintendent or foreman of wheat elevators, or as wheat buyer, or on the road. Have had over nine years' experience in inspecting, buying, grading, mixing, and in managing large wheat elevators. Can give A1 reference. Address

G, Box 2, "American Elevator and Grain Trade," Chicago, Ill.

LOOK HERE!

Mail samples of grain, flour, feed, seeds, etc., to buyers, in our heavy rope mailing envelopes:

250 2-ounce, size 3x5 in., printed, \$2.75.

250 4-ounce, size, 4x6 in., printed, \$3.25.

250 6-ounce, size, 5x7 in., printed, \$3.75.

250 8-ounce, size 5x8 in., printed, \$4.25.

No less than 250 sold. Special price in 1,000 lots. Send postal card for samples. Address

C. L. BAILEY & CO., Chicago, Ill.



[Copy for notices under this head should reach us by the 13th of the month to insure insertion in the issue for that month.]

IOWA ELEVATOR.

For sale, a Northwestern Iowa elevator; capacity 10,000 bushels. Horse power. In good mixed grain country. No trade considered. This is a splendid opening. Good reasons given for selling. Address
JOHN H. DOWNING, Hawarden, Iowa.

WEBSTER BELT CONVEYOR.

For sale, cheap, one Webster 24-inch Belt Conveyor, 120 feet, complete with automatic trip; adapted for handling grain and all other dry materials. For full particulars address

J., Box 11, care "American Elevator and Grain Trade," Chicago, Ill.

ILLINOIS ELEVATOR AND MILL.

Will sell, rent or exchange for a good farm my mill and elevator, doing a good business, and located in fine agricultural country in Central Illinois. Will give easy terms. Reason for selling, old age. Address

M. & E., Box 2, "American Elevator and Grain Trade," Chicago, Ill.

INDIANA ELEVATOR.

For sale, elevator located in one of the best agricultural districts of Indiana, and doing a business of from 250,000 to 350,000 bushels yearly. Thoroughly equipped with latest machinery. This is a rare bargain. Nothing but cash or good notes will buy this place. Good reason for wanting to sell. Address

INDIANA, Box 3, "American Elevator and Grain Trade," Chicago, Ill.

ILLINOIS ELEVATOR FOR SALE OR RENT.

Elevator in the best grain region of Illinois for rent or sale. The best built and most complete house in this part of the state, on the C., C. & St. L. R. R. (Big Four). Has ear corn and grain dump, office scales, hopper scales, one run of 3½-foot French burrs, sheller and cleaner, 30-horse power engine, etc. Must be seen to be appreciated. Handled 75,000 bushels of grain in December and January. Write for description to

LEVI RICHNER, Mansfield, Ill.

E. R. Ulrich & Sons,

SHIPPERS OF

WESTERN GRAIN,

ESPECIALLY

High Grade White and Yellow Corn.

Elevators through Central Illinois on Wabash Ry., Chicago & Alton Ry., C. P. & St. L. Ry., and St. L., C. & St. P. Ry.

Main Office, 6th Floor, Illinois National Bank Building.

SPRINGFIELD, ILLINOIS.

Write for Prices Delivered

Locations for Industries.

The name of the Chicago, Milwaukee & St. Paul Railway has long been identified with practical measures for the general upbuilding of its territory and the promotion of its commerce. Hence manufacturers have an assurance that they will find themselves at home on the Company's lines.

The Company has all its territory districted in relation to resources, adaptability and advantages for manufacturing, and seeks to secure manufacturing plants and industries where the command of raw material, markets and surroundings will insure their permanent success.

Mines of coal, iron, copper, lead and zinc, forests of soft and hard wood, quarries, clays of all kinds, tanbark, flax and other raw materials exist in its territory in addition to the vast agricultural resources.

The Chicago, Milwaukee & St. Paul Railway Company owns 6,168 miles of railway, exclusive of second track, connecting track or sidings. The eight states traversed by the Company, Illinois, Wisconsin, Northern Michigan, Iowa, Missouri, Minnesota, South Dakota and North Dakota, possess, in addition to the advantages of raw material and proximity to markets, that which is the prime factor in the industrial success of a territory—a people who form one live and thriving community of business men, in whose midst it is safe and profitable to settle.

A number of new factories and industries have been induced to locate—largely through the instrumentality of this Company—at points along its lines. The central position of the states traversed by the Chicago, Milwaukee & St. Paul Railway makes it possible to command all the markets of the United States. The trend of manufacturing is westward. Confidential inquiries are treated as such. The information furnished a particular industry is reliable. Address

LUIS JACKSON,
Industrial Commissioner, C., M. & St. P. Ry.,
435 Old Colony Building, CHICAGO, ILL.



GRAIN BAGS—BURLAPS.

All kinds of Bags,
New and Second Hand.

ORDERS FILLED PROMPTLY.

W. J. JOHNSTON,

Factory and Office,
182 Jackson Street, CHICAGO.

ROOFING AND SIDING.

The Garry Iron and Steel Roofing Co.,

168 MERWIN STREET, CLEVELAND, O.,

MANUFACTURES



Steel Roofing,
Corrugated Iron,
Siding and Metal
Ceiling.

SEND
FOR CATALOGUE

Write us for Catalogue and
Low Prices on best

STEEL ROOFING, CORRUGATED IRON, ETC.

We are large manufacturers of these goods and can save you money.

SYKES STEEL ROOFING CO.,
611 So. Morgan St., Chicago, Ill.,
and Niles, Ohio

COMMISSION CARDS.

[We will not knowingly publish the advertisement of a bucket-shop keeper or irresponsible dealer.]

B. WARREN.

B. WARREN JR.

WARREN & CO.,
Grain Commission Merchants,

ROOMS 7 AND 9 CHAMBER OF COMMERCE,

Peoria, Ill.

COMMISSION CARDS.

J. J. BLACKMAN ASSOCIATED WITH
L. E. BUNKER
**COMMISSION
MERCHANT.**

Flour, Grain, Hay, Feed, Beans, Peas, Lentils,
Seeds, Corn Goods, Etc.

274 Washington Street, - - NEW YORK.

E. A. GRUBBS.

CONRAD KIPP.

E. A. GRUBBS GRAIN CO.,
Commission Grain and Hay,

ROOM 9 CHAMBER OF COMMERCE,

Cincinnati, Ohio.

ASK FOR OUR PRICES.

SHIP YOUR GRAIN
—TO—

P. B. & C. C. MILES,
COMMISSION MERCHANTS,

PEORIA, ILL.

Established 1875.

LIBERAL ADVANCES
QUICK RETURNS.

REFERENCES:—Commercial Nat. Bank, Peoria Savings, Loan &
Trust Co., Peoria.

EDWARD P. MERRILL,

Millers' Agent.

Flour, Grain and Mill Feed.

OFFICE:

21-2 Union Wharf, PORTLAND, MAINE.

No consignments wanted.
Letters Promptly Answered.

I want a good Corn Account.

J. F. ZAHM.

F. W. JAEGER.

F. MAYER

ESTABLISHED 1879.

J. F. ZAHM & CO.,
GRAIN AND SEEDS,
TOLEDO, OHIO.

SEND FOR OUR RED LETTER. . .



F. H. PEAVEY & CO.,

Minneapolis.

GRAIN RECEIVERS.

Minn.

Consignments Solicited.

MILLING WHEAT A SPECIALTY.

M. F. BARINGER

....SUCCESSOR TO....

J. R. TOMLINSON & CO.

...GRAIN AND MILL FEED...

416-418 Bourse Bldg., Philadelphia, Pa.

Correspondence with millers and grain dealers solicited. Sight
draft with bills of lading attached honored on all shipments.

E. F. CATLIN & CO.,

COMMISSION,

Grain, Hay and Seeds,

309 CHAMBER OF COMMERCE,

ST. LOUIS.

Reference: St. Louis National Bank.

COMMISSION CARDS.

ESTABLISHED 1865.

L. EVERINGHAM & Co.,
Commission Merchants.

ORDERS AND CONSIGNMENTS SOLICITED.

GRAIN AND SEEDS OF ALL KINDS

For Cash and Future Delivery.

Suite 80 Board of Trade, - - CHICAGO, ILL.

ESTABLISHED 1867.

Reference: DUQUESNE NAT. BANK.

Daniel McCaffrey's Sons,
HAY, GRAIN AND FEED.

CONSIGNMENTS SOLICITED.

PITTSBURG, PA.

A. G. TYNG, JR.

D. D. HALL.

TYNG, HALL & CO.,
Grain and Commission Merchants

ROOMS 33 AND 35 CHAMBER OF COMMERCE,

Peoria, Illinois.

Members Chicago Board of Trade.

JAMES P. SMITH & CO.,
GRAIN,

417-418 Rialto Building, CHICAGO.

McKNIGHT & CO.,

Grain Commission Merchants,

ROOMS 23-245 DISPATCH BUILDING,
COLUMBUS, OHIO.

CORRESPONDENCE SOLICITED.

L. F. Miller & Sons,

RECEIVERS AND SHIPPERS OF

GRAIN, FEED, SEEDS, HAY, ETC.

OFFICE 2933 N. BROAD ST., PHILADELPHIA, PA.

CONSIGNMENTS SOLICITED.

ELEVATOR AND WAREHOUSE, GERMANTOWN JCT., P. R. R.

References: { Manufacturers National Bank, Philadelphia, Pa.
Union National Bank, Westminster, Md.

E. L. ROGERS & CO.,

ESTABLISHED
1863.

**COMMISSION
MERCHANTS,**

RECEIVERS AND EXPORTERS

GRAIN, Flour, Seed, Hay and Straw,

358 Bourse Building, PHILADELPHIA, PA.

Liberal advances made on consignments. Market reports fur-
nished gratuitously on application. Correspondence solicited.

References: { Corn Exchange National Bank.
Manufacturers National Bank.
Merchants National Bank.

Leavitt, Sanborn & Co.,

704 Chamber
of Commerce,
Boston, Mass.

HAY COMMISSION

Our market needs the BEST HAY. There is no money to
be made in poor goods. Correspondence solicited.

Reference: T. G. Hiler, Cashier the Faneuil Hall National
Bank, Boston.

COMMISSION CARDS.

ARMOUR & CO.,

205 LA SALLE STREET,
CHICAGO.

GRAIN BUYERS AND DEALERS.

H. G. MORGAN & CO.,

RECEIVERS AND SHIPPERS

OATS, CORN, HAY AND MILL FEED,
PITTSBURG, PA.

Will Bid You on Clipped or Natural Oats on Receipt
of Sample.

HAVE A LARGE TRADE IN YELLOW EAR CORN.

LEMAN BARTLETT.

O. Z. BARTLETT.

L. Bartlett & Son,

GRAIN AND PRODUCE

COMMISSION MERCHANTS.

BARLEY A SPECIALTY.

Room 23 Chamber of Commerce Bldg
Milwaukee, Wis.

Careful attention given to orders from Brewers, Maltsters and Millers

COLLINS & Co.,

STRICTLY COMMISSION

Grain, Hay and Mill Feed.

CINCINNATI, OHIO.

A. R. CLOUGH,

MILLER'S AGENT,

GRAIN AND MILL FEED,

Board of Trade Rooms, Manchester, N. H.

Letters promptly answered. All sales direct.

I want a good Toledo corn account.

GEO. N. REINHARDT & CO.

MELROSE STATION, NEW YORK CITY.



We sell on Commission and buy direct,

HAY, GRAIN AND FEED.

Storage capacity 8,000 bales, 30,000 oushels
Let us know what you have to offer.

DUST! DUST!



Gibbs' Patent Dust Pro-
tector is invaluable to oper-
atives in every industry
where dust is troublesome.
It has been thoroughly
tested for many years in
every kind of dust and is the
only reliable protector
known. Perfect ventila-
tion. Nickel plated Pro-
tector \$1, postpaid. Circu-
lars free. Agents wanted.

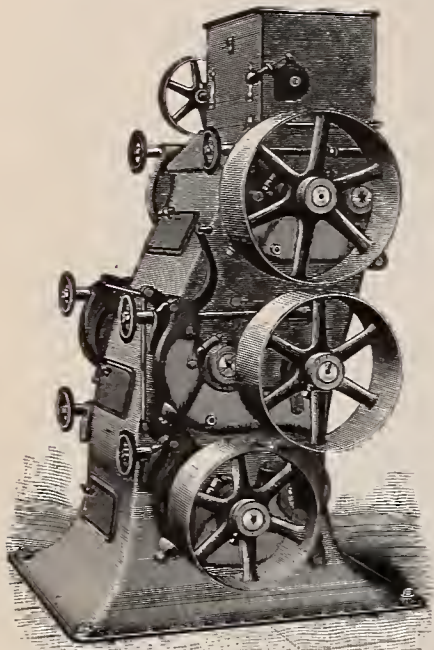
Gibbs Respirator Co.,
30-36 La Salle Street, • CHICAGO.

NORDYKE & MARMON CO., Indianapolis, Ind.,

FLOUR, CORN AND ELEVATOR MACHINERY.

QUALITY TO SUIT THE MOST EXACTING.

PRICES TO SUIT THE TIMES.

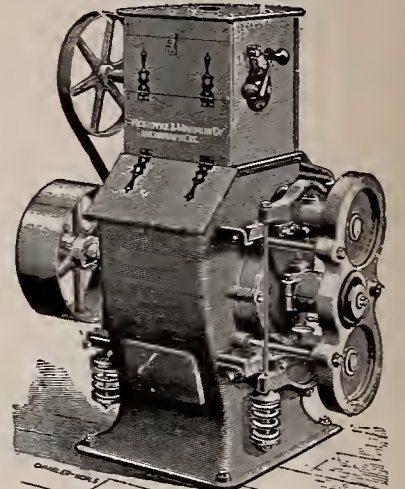


Three Pair High Six Roller Mill.

Corn Shellers,
Grain Cleaners,
Flour and Bran Packers,
Flour Feeders and Mixers,
Portable Buhr Mills,
Hominy Mills,
Wheat Heaters,
Scales,
Shafting,
Pulleys,

Elevator Supplies.

Hangers,
Boxes,
Gearing
Belting,
Steel Conveyors,
Wood Conveyors,
Link Belt,
Sprocket Wheels,
Engines and Boilers,
Water Wheels,



Three Roll Two-Break Corn and Feed Mill.

TEN SIZES and STYLES of ROLLER, CORN and FEED MILLS

No doubt about the volume of our voice if price and merit talk, and what we say will be interesting if you intend to buy.

WRITE US, SAYING WHAT YOU WANT.

NORDYKE & MARMON CO., - INDIANAPOLIS, IND.



J. B. DUTTON'S Patent Automatic Grain Scale.

FOR USE IN

ELEVATORS, DISTILLERIES, MALT HOUSES, FLOUR MILLS, ETC.

ACCURATE AND RELIABLE AT ALL TIMES. SCALES SENT ON 30 DAYS' TRIAL.

SEND FOR CIRCULAR AND PRICE LIST.

Address

J. B. DUTTON, 1026 and 1028 Scotten Ave., DETROIT, MICH.

Grain Dealers' and Shippers' Gazetteer

FOR 1897-98.

Containing Official Lists of Flouring Mills, Elevators, Grain Dealers, Shippers and Commission Merchants Located on all the Principal Railroads in the United States and Canada.

WITH GRADING AND INSPECTION RULES OF LEADING MARKETS.

If you do business with these classes of business men you must have a list of some kind. This is handy and cheap. Large octavo, 266 pages, bound in cloth. Price.....
Sent postpaid on receipt of price.

\$2.00

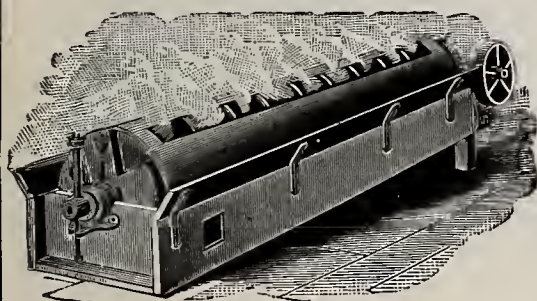
MITCHELL BROS. CO., 184-186 DEARBORN ST., CHICAGO, ILL.

We can furnish our Ajax Transmission Rope in all lengths and sizes desired.



H. CHANNON CO.,
24-26 Market St., Chicago.

DAMP WHEAT can be PUT in CONDITION for GRINDING or STORAGE



By using our
STEAM DRYER,

Which is also a successful
Wheat Heater or Temperer
or Dryer for Washed
Wheat or Bran.

It leaves the Wheat in Perfect Condition for the Rolls. Will also dry
Malster's, Brewer's and Distiller's Wet Grain.

Not an Experiment. In successful use 25 years drying
CORN MEAL AND HOMINY,

BREWERS' GRITS AND MEAL,
BUCKWHEAT, RICE AND

ALL CEREAL PRODUCTS.

ALSO SAND, COAL DUST, GRAPHITE AND CLAY AND ORE OF ALL KINDS!

Automatic in operation, requiring no attention. Double
the capacity of any other Dryer sold for same price.

THE CUTLER CO., North Wilbraham, Mass.

THE OLD WAY.



For NEW and BEST Way

ADDRESS

UNION IRON WORKS,

DECATUR, ILL.,

Manufacturers of the CELEBRATED

Western Shellers and Cleaners

The "Best in the World."

Elevator Supplies of All Kinds a Specialty.

We are the Pioneer Elevator Builders of the West, and claim priority in the building of Cheap Elevators with Increased Conveniences. Don't BUILD until you get our Plans and Prices.

Write for Catalogue.



SOUTH CHICAGO ELEVATORS,

93rd STREET AND HARBOR AVENUE,

E. M. ASHLEY, Supt.

CHICAGO, ILL., August 12, 1897.

M. W. MIX, President, Dodge Mfg. Co., Mishawaka, Ind.:

DEAR SIR:—Replying to yours of the 10th in regard to the rubber-covered wood-rim pulleys used in the elevator heads at the Pennsylvania Transfer House, I would say that from my past experience with them, I consider them preferable in all respects to head pulleys built entirely of iron, and I can see no reason why they should not be more durable than the iron pulley. They certainly are not so liable to fractures and I think the rubber cover will last longer. Although I seldom recommend machinery of any kind, you are at liberty to use this if you wish.

Very truly,

E. M. ASHLEY, Superintendent.

DODGE MANUFACTURING COMPANY,

MISHAWAKA, IND.,

GRAIN ELEVATOR

Manufacturers of . . .

MACHINERY AND APPLIANCES.

WRITE FOR OUR LARGE CATALOGUE, "B 6."

McCOY'S NEW Clark and
Van Buren Sts.,
EUROPEAN HOTEL CHICAGO.



FIREPROOF.

One block from C., R. I. & P.
and L. S. & M. S. Railroad
Depots.

Improvements costing \$75,000 have just been completed, and the house now offers every convenience to be found in any hotel, including hot and cold water, electric light and steam heat in every room. Located in the heart of the business district, in close proximity to the department stores, depots and theaters, and on the elevated loop.

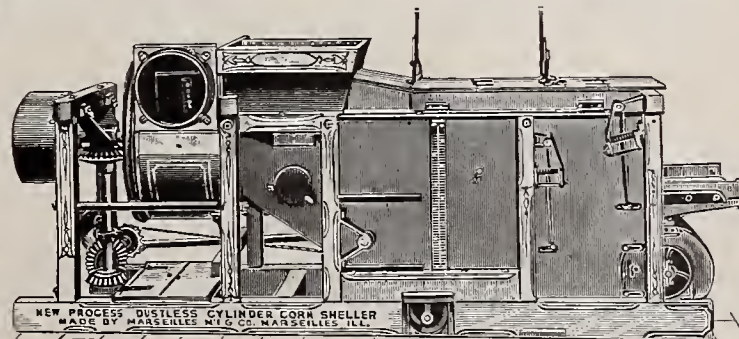
Rates 75 cents a day and upward.

First-class restaurant in connection at moderate prices.

WM. McCOY,

Owner and Proprietor

**THE NEW PROCESS
DUSTLESS WAREHOUSE CORN SHELLER.**



Something New

The
Latest
Improvements

Specially built for
Mills and Elevators.

Catalogue Free.

A NEW PROCESS OF SHELLING CORN.

Some of the special features are: An Adjustable Cylinder, White Iron Shelling Parts, Spiral Shelling Head, Double Suction and Blast Fans, Positive Screw Feed, no Clogging, no Grinding of Corn, Cobs Left in Good Shape for Fuel, no Waste of Grain or Power.

We make over 100 styles and sizes of Corn Shellers and can meet all demands. Address

MARSEILLES MFG. CO., MARSEILLES, ILL.

James Stewart & Co.,

ENGINEERS AND
CONTRACTORS FOR

Frame or Steel GRAIN ELEVATORS,

Railroad Work and Heavy Structures.

WE ALSO DESIGN AND BUILD PNEUMATIC  FLOATING ELEVATORS.

St. Louis and Buffalo.

We have built every elevator in New Orleans and Galveston. Also every elevator on the remaining Gulf Coast excepting one small one within the past twenty years.



306 to 310 Corn Exchange,
Minneapolis, Minn.

Designer
and
Builder of
Grain
Elevators,
Coal Docks,
Etc.

Before
Contracting,
see our
New Method of
Fireproof
Construction.

WITH WHICH THIS PUBLICATION IS PRINTED
IS MADE BY THE
THE INK QUEEN CITY PRINTING INK CO.
SOUTH ST. CINCINNATI, O.

WM. GRAVER TANK WORKS

MANUFACTURERS AND BUILDERS OF

Steel Storage Tanks AND STEEL ELEVATORS.

We Build Storage for Any Commodity
of Any Capacity.

GENERAL OFFICES:

790 OLD COLONY BUILDING, = CHICAGO.



D. A. ROBINSON

OFFICES: { Auditorium Annex, Chicago, Ill.
1039 Lumber Exchange, Minneapolis, Minn.
Nos. 109, 110, 111 White Building, Buffalo, N. Y.



DESIGNER AND BUILDER OF

Grain Elevators, Malt Houses

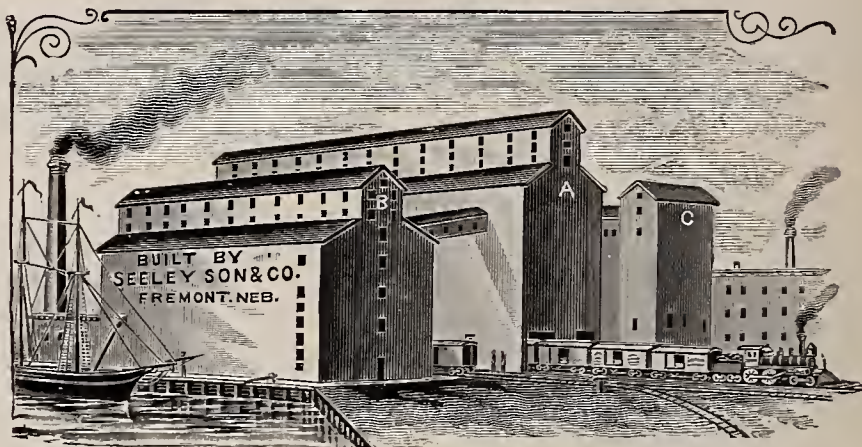
AND ALL KINDS OF HEAVY CONSTRUCTION.

Patent System of Independent
Leg Rope Drive.

Patent Double-Jointed
Distributing Spouts.

Patent Automatic
Grain Belt Tripper.

SEELEY, SON & CO., Fremont, Neb.



Architects and Builders

OF ALL KINDS OF

GRAIN ELEVATORS.



GEO. M. MOULTON,
President.

W. C. ENGLER,
Secretary.

J. M. WITHERSPOON,
Superintendent.

MOULTON-STARRETT CO.,

FISHER BUILDING, CHICAGO,

SUCCESSORS TO J. T. MOULTON & SON,

THE PIONEERS IN

GRAIN ELEVATOR CONSTRUCTION.

Architects and Builders of
Frame and Steel Grain Elevators.

THE BARNETT & RECORD COMPANY

DESIGNERS AND BUILDERS OF

Grain Elevators, Mills, Breweries and Malt Houses.

STEEL ELEVATORS A SPECIALTY.

We also contract to build complete all kinds of heavy structures, such as Docks, Packing Houses, Public Buildings, Stock Yards, Etc., Etc.



A Few Elevators Built by Us. Bu. capacity.

Portland El. Co., Portland, Me.	1,000,000
Maple Leaf Elevator, Kansas City, Kan.	1,000,000
Burlington Elevator, St. Louis.	1,300,000
Interstate Elevator Co., Minneapolis	1,000,000
Northern Grain Co., Manitowoc, Wis.	500,000
W. W. Cargill, Green Bay, Wis.	500,000
Vigo Elevator Terre Haute, Ill.	500,000
Belt Line Elevator Co., Superior, Wis.	2,500,000
Superior Terminal El. Co., Superior, Wis.	2,500,000
F. H. Peavey & Co., Minneapolis No. 1.	1,750,000
F. H. Peavey & Co., Minneapolis No. 2.	500,000
Atlantic Elevator Co., Minneapolis	600,000
Empire Elevator Co., Minneapolis No. 1.	600,000
Empire Elevator Co., Minneapolis No. 2.	500,000

WRITE US FOR ESTIMATES.

604 CORN EXCHANGE, MINNEAPOLIS, MINN.

CHICAGO OFFICE, 541 ROOKERY.

WHEN YOU WANT
Elevator or Mill
Supplies,

Cleaning Machines,
Feed Mills,
Corn Shellers,
Engines and Boilers,
Gasoline Engines,
Horse Powers,

WRITE TO

GREAT WESTERN MANUFACTURING CO.

General Office and Factory, LEAVENWORTH, KAN.

Warehouse and Salesrooms, 1221-1223 Union Ave., KANSAS CITY, MO.

SEND FOR OUR ILLUSTRATED CATALOGUE.

Macdonald Engineering Company,

CONTRACTING ENGINEERS,

Designers and Builders of Wood and Steel

GRAIN ELEVATORS

Any Capacity.

1454, 1455 and 1456 Monadnock Block, Chicago, Ill.

E. LEE HEIDENREICH,

Consulting Engineer.

DESIGNER AND
ARCHITECT FOR

GRAIN ELEVATORS

In Wood, Steel or Cement Construction.

ESTIMATES FURNISHED.
FIRE LOSSES ADJUSTED.

541 ROOKERY,
CHICAGO.

JOHN S. METCALF & CO., ENGINEERS,

GRAIN ELEVATOR BUILDERS,

1075 W. FIFTEENTH STREET, CHICAGO, ILL.

During the past eighteen months the following elevators have been designed and constructed under our supervision and by us, making a total capacity of nearly 6,000,000 bushels:

Grand Trunk Elevator, Portland, Me.	1,000,000
Export Elevator, Buffalo, N. Y.	1,000,000
J. R. Booth Elevator, Parry Sound, Canada	1,000,000
Cleveland Elevator Company's Elevator, Cleveland, Ohio	500,000
Erie R. R. Transfer & Chipping House, Chicago, Ill.	100 cars in 10 hours
Manchester Ship Canal Co.'s Elevator, Manchester, England	1,500,000
Burlington Elevator, Peoria, Ill.	500,000

GEO. M. FILSTEAD,

409 WEST EIGHTEENTH STREET, - - ERIE, PA.

Elevator Builder and Contractor.

CORRESPONDENCE SOLICITED.

COUNTRY ELEVATORS A SPECIALTY.

TROMANHAUSER BROS.,

Architects, Contractors, and Builders of

GRAIN ELEVATORS,

Country, Transfer, Mixing, Marine, and
Terminal Storage Elevator Plants.

PLANS SUBMITTED AND ESTIMATES FURNISHED.

616 CORN EXCHANGE, MINNEAPOLIS, MINN.

SEEDS

THE ALBERT DICKINSON CO.

Timothy, Clovers, Flax, Hungarian, Millets, Red Top, Blue Grass,
Lawn Grass, Orchard Grass, Bird Seeds, Ensilage Corn,
Pop Corn, Buckwheat, Field Peas, etc.

OFFICES, COR. CLARK & SIXTEENTH STS., CHICAGO, ILL.

The Grainman's Actuary.

Showing at a glance the cost of from 1 to 50,000 bushels at any price from 1-8 of a cent to \$1.00 a bushel. Prices run through the books in an indexed form; can find any price and amount quickly. It also shows at a glance the cost of fractional parts of bushels at the following prices:

**WHEAT FROM 40c TO \$1.00 PER BUSHEL.
EAR CORN FROM 10c TO 50c PER BUSHEL.**

**SHELLED CORN FROM 10c TO 50c PER BUSHEL.
OATS FROM 10c TO 40c PER BUSHEL.**

**IT IS THE MOST COMPLETE, ACCURATE AND CONVENIENT BOOK EVER ISSUED.
ITS USE WILL SAVE TIME AND LABOR AND INSURE ACCURACY.**

BALTIMORE, April 26, 1897.

Mr. HENRY NOBBE, Farmersville, Ill.:
DEAR SIR:—Your esteemed favor of the 23d to hand and noted. Accept thanks for the supplement furnished us. We find your Actuary all it has been represented to be. It is a great time saver, is accurate and correct in every particular and is indispensable to everyone connected with the grain business, and we take pleasure in recommending its use. Yours truly,
KIRWAN BROS. GRAIN CO.

HUTCHINSON, KAN., April 26, 1897.

HENRY NOBBE, Esq., Farmersville, Ill.:
DEAR SIR:—We have received your Actuary, and after careful

examination of its merits we find it a very valuable work and can recommend it to all grain buyers. Yours respectfully,
W. L. WOODNUT & CO.

DECATUR, ILL., April 23, 1897.

Mr. HENRY NOBBE, Farmersville, Ill.:
DEAR SIR:—Your favor of the 23d received inclosing supplement to the Actuary, for which accept our thanks. In regard to the "Actuary" will say we are very much pleased with it, and think every grain dealer should have one in his office, as it saves time and time is money. Yours truly,
DECATUR MILLING CO.

WINONA, MINN., April 24, 1897.

HENRY NOBBE, Esq., Farmersville, Ill.:
DEAR SIR:—We have used your Grainman's Actuary for some time past and find same satisfactory in every way. It is a great convenience in our office and saves labor and time. Yours truly,
WINONA & DAKOTA GRAIN CO.

NEW YORK, April 29, 1897.

Mr. HENRY NOBBE:
DEAR SIR:—We find your Grainman's Actuary of benefit in checking up invoices, inasmuch as time is saved, and accuracy insured. Yours,
CLARK & ALLEN,
Per B. D. Kennedy.

Size of book 4½x7½; 214 pages, fine cloth back, good paper and well bound. Copyrighted. Price reduced to \$1.00 per copy. Mailed on receipt of price. Will send you the book for inspection on request, to be returned to me if not satisfactory. Address all communications to

HENRY NOBBE, GRAIN DEALER AND PUBLISHER,
Farmersville, Illinois.

Conveying, Elevating and Power-Transmitting Machinery H. W. CALDWELL & SON CO.

SPECIALTIES FOR MILLS AND GRAIN
ELEVATORS.

GENERAL MACHINISTS,
127, 129, 131, 133 West Washington St.
CHICAGO.

CALDWELL
STEEL CONVEYOR.

Manufactured exclusively by us at Chicago, with latest improvements.



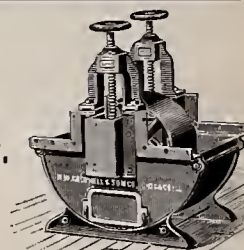
CALDWELL CORRUGATED SEAMLESS
STEEL ELEVATOR BUCKETS.

LINK BELTING.
SPROCKET WHEELS.
COTTON BELTING.
RUBBER BELTING.
LEATHER BELTING.
BELT CLAMPS.
POWER GRAIN SHOVELS.
ELEVATOR BOLTS.
ELEVATOR BUCKETS.
CONCRETE MIXERS.

FRICTION CLUTCHES.
JAW CLUTCHES.
COUPLINGS.
FLEXIBLE SPOUTS.
GEARING (all kinds).
GRAIN SCOOPS.
ELEVATOR BOOTS.
COGSWELL MILLS.
HANGERS.
PERFORATED METALS.

PILLOW BLOCKS.
IRON PULLEYS.
WOOD PULLEYS.
SHAFTING.
SET COLLARS.
SWIVEL SPOUTS.
TAKE-UP BOXES.
TURN HEAD SPOUTS.
WIRE CLOTH.

Elevator
Boot.



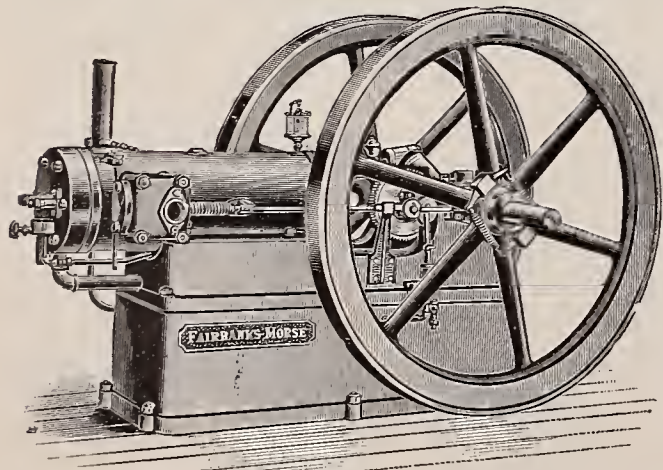
FAIRBANKS-MORSE Gasoline Engines

.. ARE LIKE ..

**FAIRBANKS SCALES,
Standard,
Durable,
Reliable.**

Thousands of the Scales and hundreds of the
Engines are used by the GRAIN TRADE.

**FAIRBANKS, MORSE & CO.,
CHICAGO.**



St. Louis, Minneapolis. Cincinnati. Cleveland. Kansas City. Indianapolis. Louisville. Omaha.
Portland, Ore. St. Paul. Denver. San Francisco. Los Angeles.

Send for Special Catalogue "G" showing plans for placing Engines in Elevators, Flour and Feed Mills, etc.

JEFFREY

Roller, Steel and Special Chains
—FOR—
**ELEVATING
AND CONVEYING
MACHINERY**
FOR HANDLING MATERIAL OF ALL KINDS.
**POWER TRANSMISSION
MACHINERY.**
COAL MINING MACHINERY.
Wire Cable
Conveyors.
For long and
short distance
conveying.

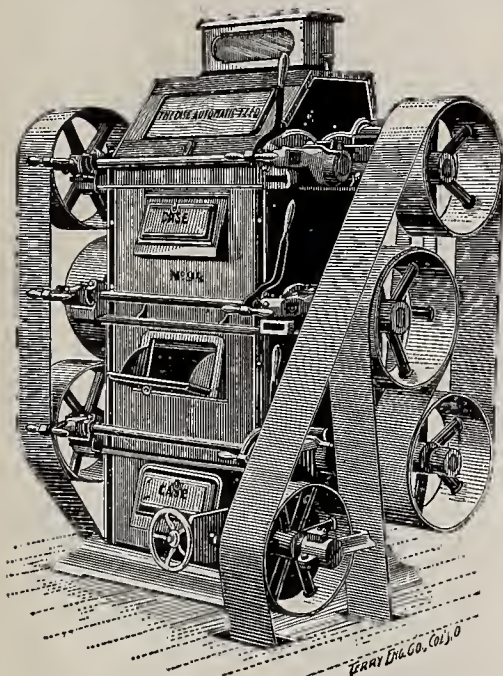
THE JEFFREY MFG. CO. 163 Washington St.
Columbus, Ohio. NEW YORK.
Send for Catalogue.

It is a Convincing Argument

That a Feed and Meal Mill in connection with an elevator is a paying investment, and if you are considering this matter we would call your attention to

The Case Three-Pair High Mill.

We guarantee them as to result and capacity second to none.



BUTLER, Mo., Nov. 30, 1897.
The Case Mfg. Co., Columbus, Ohio.

Dear Sirs:—As it is now some time since we started our new meal plant, and thinking you would like to know whether it is running to our entire satisfaction or not, we will say that it is giving us entire satisfaction in every particular. It takes very little power and is making as fine a quality of meal as can be made.

We gave you contract for our new meal plant without accepting any other bids for the reason that you built for us the best flour mill in the state.

Wishing you success, we are
Yours truly, POWER & BRO.

Write Us for Descriptive
Circulars and Prices.

The Case Manufacturing Co.

MILL BUILDERS AND FURNISHERS OF MILLERS' SUPPLIES,

COLUMBUS, OHIO.

Every Regular Grain Dealer

Should join the **Grain Dealers' National Association** and thereby help to support an organization which is seeking to promote the common interests of regular grain dealers, and to protect them in their business.

It seeks to secure the payment of a loading fee of two cents per 100 by railroad companies, to members, who receive grain for loading into cars and give three days storage free to all who wish to ship over carriers' lines.

It seeks to relieve its members from competition with irregular shippers and to discourage the sending of market quotations to any but regular grain dealers. It also strives to encourage the shipping of grain only to receivers who do not solicit or encourage shipments by others than regular grain dealers.

It seeks to guard and champion the interests of regular grain dealers in all matters of national scope, and especially in legislation by Congress or legislation which will affect the interests of the regular dealers of more than one state.

It is in favor of clean bills of lading and seeks to secure correct weights and to reduce shortages.

It is striving to relieve the regular dealer from the exactions and impositions heaped upon him by the rail carriers, insurance men and others.

It seeks to secure the adoption of clear and equitable rules governing the grading of grain in all markets and the equitable enforcement thereof.

No regular grain dealer, who has the interests of his business at heart or wishes relief from the many abuses which encumber it, can hesitate to join the Grain Dealers' National Association and help along the work.

The membership consists of two classes of members; detached and associated. The detached members are members of this Association regardless of their membership in any other organization. The associated members have membership in this association by reason of their membership in a state, district or local association which has been admitted to membership in this association. The constitution provides that,

"Any person, firm or corporation operating a grain elevator, and engaging in the buying and selling of grain continuously, may become a detached member of this association; also, Any person, firm or corporation who has engaged in the buying and selling of grain continuously at one station for a period of two years, yet has no elevator, may, upon the recommendation of two persons, firms or corporations, who are members of this Association in good standing, and are operating grain elevators in the same or nearby stations, be admitted to detached membership.

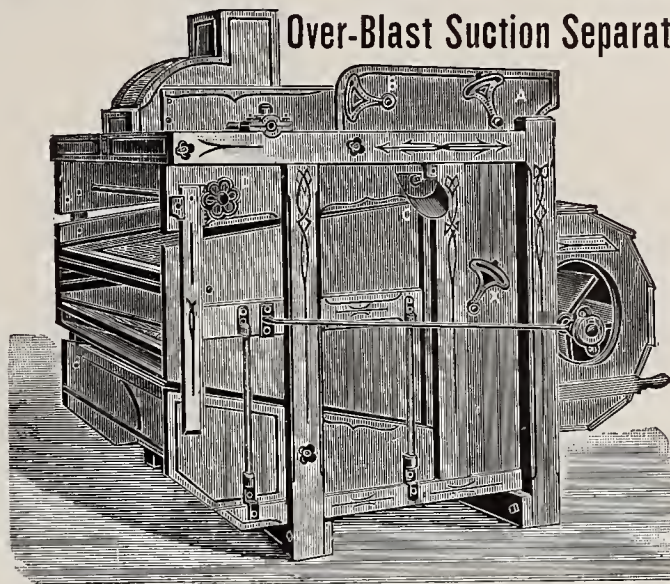
"Regular grain receivers and track buyers who do not sell grain for or buy grain from grain scalpers, irregular grain dealers, or transient grain buyers, 'scoop shovel men,' may be admitted to detached membership on the payment of the regular fees, and shall be rated the same as the owner of one elevator."

The officers are W. T. McCray, Kentland, Ind., president; E. A. Grubbs, Greenville, Ohio, first vice-president; J. M. Sewell, Hastings, Neb., second vice-president, and Charles S. Clark, Chicago, secretary. The directors are A. E. Clutter, Lima, O., H. N. Knight, Monticello, Ill., T. P. Baxter, Taylorville, Ill., M. McFarlin, Des Moines, Iowa, and H. B. Heatt, Willis, Kans.

All applications should be sent to

CHARLES S. CLARK, Secretary, Room 5, 184 Dearborn Street, Chicago.

THE CELEBRATED A. P. DICKEY GIANT GRAIN CLEANERS.

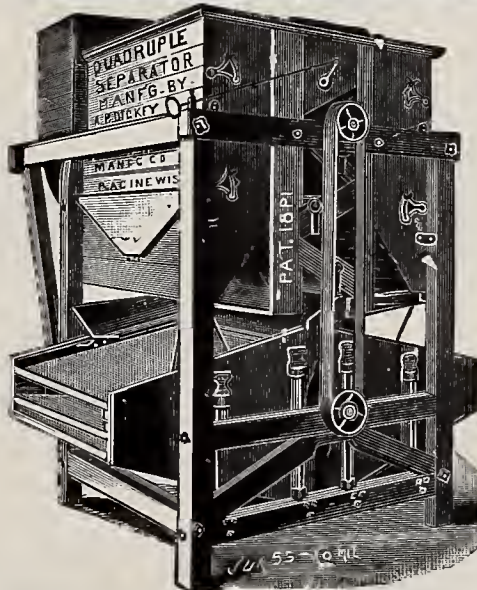


Over-Blast Suction Separator.

THE
STANDARD
IN THEIR
LINE.

"Grain
Cleaned
to a
Standstill."

Manufactured in any desired size and pattern, with capacities to accommodate the largest Elevator and Flouring Mills, or small Warehouses for hand use. Single and Double, End and Side Shake, and Dustless Separators, both Under and Over-Blast.



The Quadruple Suction Dustless Separator, Four separate suction, independent of each other, with sieves and screens, requiring less power, less floor space, lower in height, needing less bracing, has better and more perfect separations, and furnished with the only perfect force feed and mixer on the market. Guaranteed to clean Grain to any desired standard without waste once through this machine twice as well as any machine made.

For CIRCULARS and PRICES address

A. P. Dickey Mfg. Co.

RACINE, WIS.

THE SMITH PNEUMATIC TRANSFER AND STEEL STORAGE SYSTEM.

*Now in Successful Operation
at Toledo, Ohio.*

This is an entirely new and complete system for handling, treating and storing grain, seeds, millstuff, coal, sand, gravel, salt and other subdivided substances which can be handled in bulk, and the protection and preservation of cereals, seeds, vegetables, fruits, ensilage and fodder crops, cotton, wool and other fibers, tobacco, provisions and all perishable substances and valuable commodities in absolute safety from fire, water, air, storms, floods, microbes, insects, vermin, animals, thieves, evaporation, fermentation, oxidation or other causes of damage or destruction.

This system has nothing in common with other methods, but is entirely different and distinct, in construction, arrangement and operation, materials used, principles involved, and results obtained, from all others heretofore in use.

It is fully protected by 20 patents already issued, and others pending, in the United States and principal foreign countries.

It was on exhibition at the World's Columbian Exposition of 1893, and was awarded four highest medals and diplomas and received in addition thereto the highest indorsement of the principal officers of the Exposition as well as of the highest authorities in all industries to which it is applicable.

The title to all patents and other rights belonging to this system is vested in The Smith Pneumatic Transfer & Storage Co., and any infringement thereon will receive prompt attention.

The policy of the Company in regard to the introduction of its system is to make such liberal and easy terms with all who desire to use it that there will be no cause for complaint.

Full particulars furnished on application in person or by letter to

The Smith Pneumatic Transfer & Storage Co.,

1327 Manhattan Building,

315 DEARBORN ST., CHICAGO.

THE "OTTO" GASOLINE ENGINES.

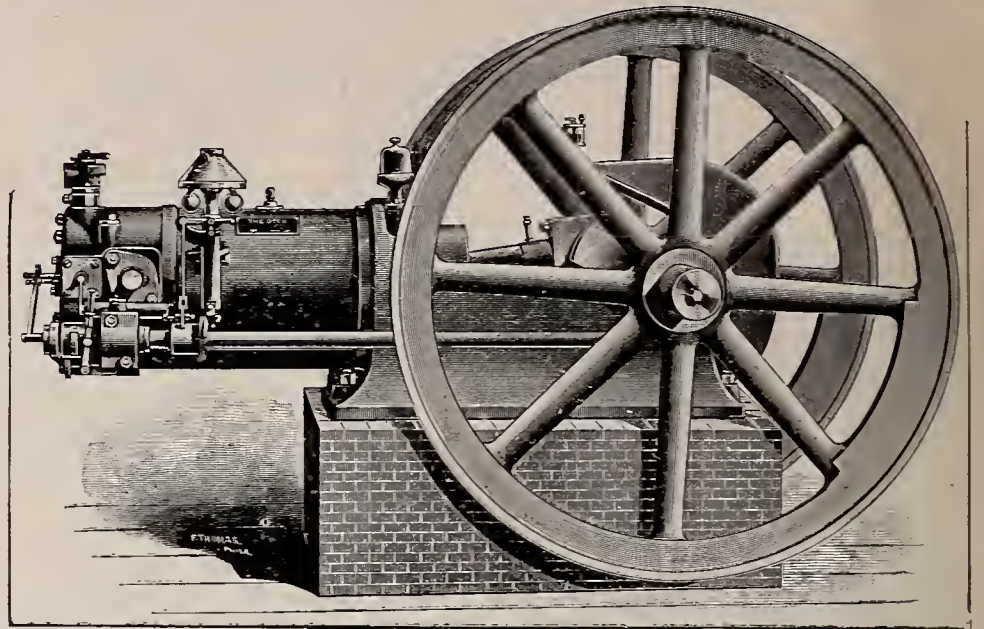
STATIONARY, PORTABLE AND MARINE.

○○○○○○○○

SIMPLEST IN CONSTRUCTION,
SAFEST AND EASIEST TO OPERATE,
SUREST TO GIVE SATISFACTION.

50,000 OTTO'S IN USE.

OFFICES: { 245 Lake Street, CHICAGO.
321 S. 15th Street, OMAHA.
313 Third St., South, MINNEAPOLIS.
35 E. Ohio Street, INDIANAPOLIS.



Factory: THE OTTO GAS ENGINE WORKS, PHILADELPHIA.

\$2.00 \$2.50 \$1.00



PUBLISHED THE FIRST DAY OF EVERY MONTH.

ESTABLISHED IN 1873.

The Best Exponent of Modern Milling.

SUBSCRIPTION PRICE,

\$2.00 PER YEAR.

Each number is worth the cost of an entire year's subscription to every man in the trade.

SEND FOR SAMPLE COPY.

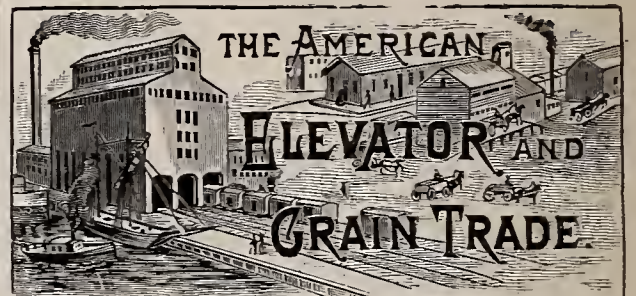
ADDRESS

— FOR —
BOTH
FOR ONE YEAR.

You can get such value nowhere else for your money. Many readers want a paper that comes twice a month. THE AMERICAN MILLER and THE ELEVATOR are offered at less than such a paper could be given for. You need them both in your business.

\$2.50

Two Papers a Month.



PUBLISHED THE FIFTEENTH OF EVERY MONTH.

ESTABLISHED IN 1882.

Subscription Price, Only \$1.00 Per Year.

Each Number Contains 44 Pages of Valuable Matter.

THE AMERICAN ELEVATOR AND GRAIN TRADE is the only paper of its class in the field.

Mitchell Bros. Co.

PUBLISHERS,

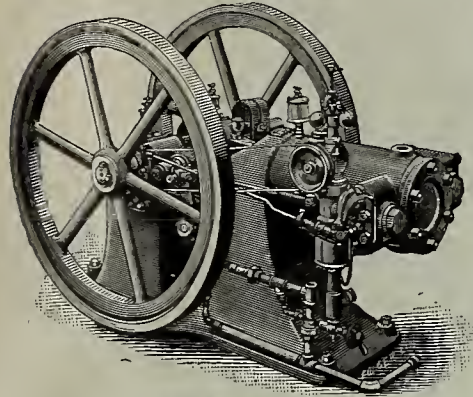
184 & 186 Dearborn St., CHICAGO, ILL.

AMERICAN ELEVATOR AND GRAIN TRADE.

SEEDS

Grain, Clover and Grass Seeds,
CHAS. E. PRUNTY,
MAIN & MARKET SAINT LOUIS.

THE SUMNER GAS AND GASOLINE ENGINES.



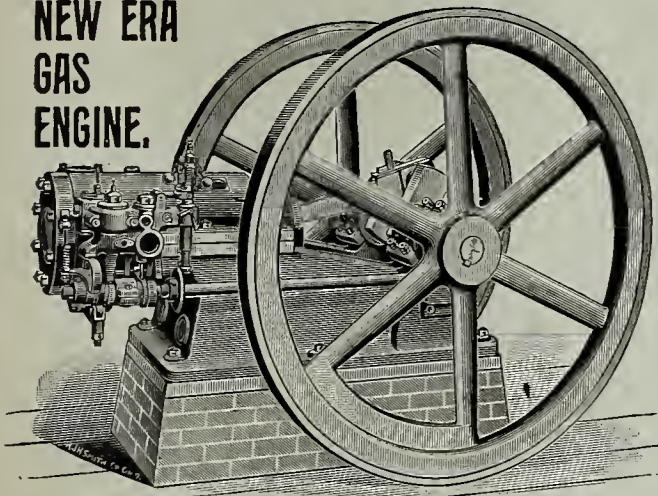
The NEW IMPROVED SUMNER ENGINE is up to date in every respect. It is not excelled in any particular by any engine on the market. In several important points it leads all others. One of the most important of all is its Electro Magneto for the Explosion of Gas. Satisfaction guaranteed and each Engine warranted. Get our prices and we will get your business. Correspondence solicited.

THE F. M. WATKINS CO.,
MANUFACTURERS,
S. E. Cor. Baymiller and Sixth Sts.,
CINCINNATI, O.

Northwestern Agent: C. A. Ames, 405 Sixth Ave. South, Minneapolis, Minn.

"NEW ERA" GASOLINE ENGINE.

NEW ERA
GAS
ENGINE.



Easy to Start.
Easy to Operate.
Vertical Poppet Valves.
Electric or Tube Igniter.
Any working part removed for cleaning or repairing without disturbing other parts.
Heavy and substantial. First class throughout.
Thoroughly Guaranteed.
Sizes 5 to 60 H. P.

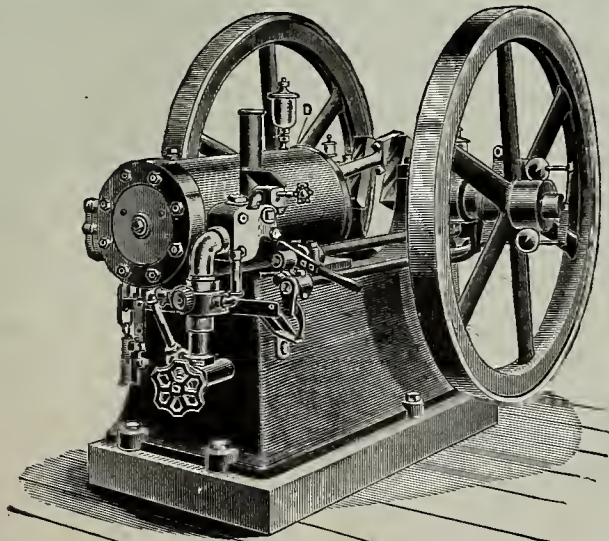
For Catalogue and Prices address

NEW ERA IRON WORKS, 30 WAYNE AVE., DAYTON, OHIO.

THE LATEST WEBSTER HORIZONTAL ENGINE

GAS

GASOLINE



WEBSTER MANUFACTURING COMPANY,
SOLE MAKERS,
1077 WEST 15TH ST., CHICAGO.
Write for handsome new catalogue.

HOTEL HOLLAND, CHICAGO.

53D STREET AND LAKE AVENUE, HYDE PARK.

A strictly first-class family hotel at moderate prices, with all modern improvements, with a table of peculiar excellence.

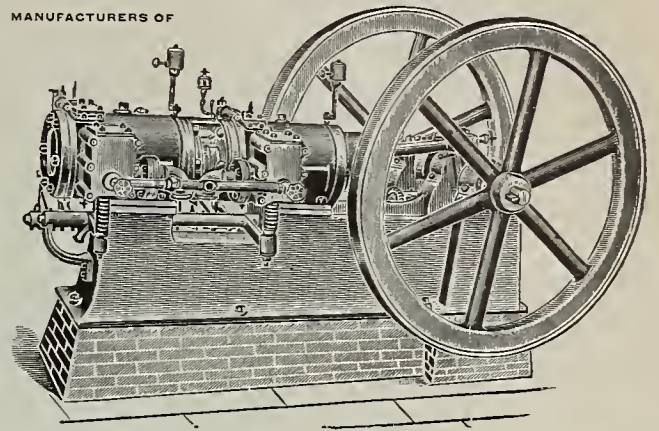
W. S. SAITER, PROPRIETOR.

FRONTIER IRON WORKS

Detroit, Mich.

The Hicks
Gas and
Gasoline
Engines.

MANUFACTURERS OF



The Ideal Engine for Mills,
Elevators, Etc.
An Impulse Every Revolution.
Good Regulation.
High Economy.
Full Power.
High Mechanical Finish.
FREE CATALOGUE ON REQUEST.

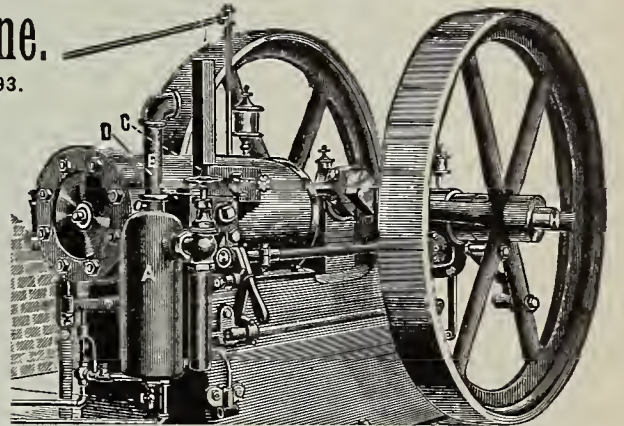
LEWIS Gas Engine.

First Prize Chicago World's Fair, 1893.

SUPERIOR TO ALL.

Uniform Speed.
Controlled by Volume Governor, operated on same principle as a steam engine, taking just enough gas to keep a steady motion.
Double Exhaust Ports.
Instantly relieving back pressure on exhaust stroke and producing uniform compression on compression stroke.
Interchangeable Parts.
High economy, and will develop 25 per cent. more than rated power.

J. THOMPSON & SONS MFG. CO.
BELOIT, WIS., U. S. A.



"Not How Cheap, But How Good."

The Climax Gas and Gasoline Engine

—EXCELS IN—

ECONOMY, DURABILITY,
SIMPLICITY AND REGULATION.

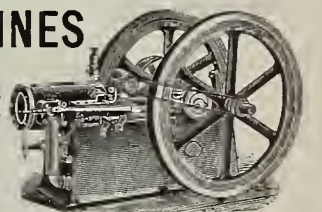
Catalogue and Testimonials for the asking.

THE ERIE GAS ENGINE CO., - 328 West 16th Street, Erie, Pa.

FOOS GAS AND GASOLINE ENGINES

ADAPTED FOR ALL PURPOSES USING POWER.
Excel for Electric Lighting, Flour and Feed Mills, Grain Elevators, Water Works, Irrigation, Mining, Shops, and all other uses requiring STEADY SPEED.
2 TO 250 H. P.

Write us before purchasing. New Art Catalogue free.
THE FOOS GAS ENGINE CO., Springfield, Ohio, U.S.A.

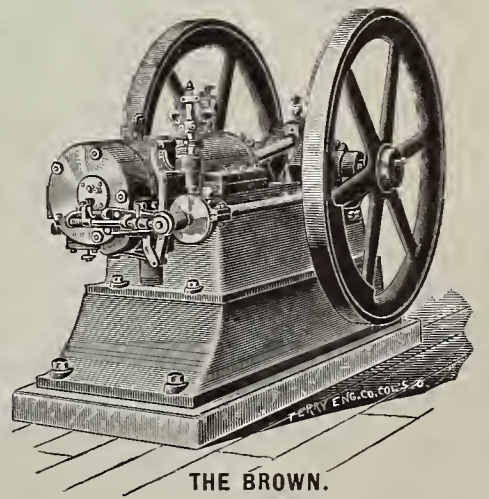


Gas and Gasoline Engines.

THE BROWN

Uses gas or gasoline. Makes no compression while engine is running idle. Charges fired with electric spark or tube igniter. Made upon honor and fully guaranteed. Write for description and prices.

Columbus Machine Co.,
COLUMBUS, OHIO.

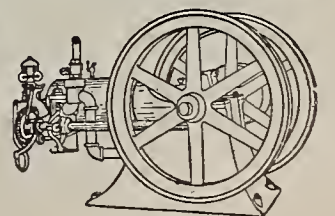


THE BROWN.

LAMBERT GAS and GASOLINE ENGINES 2 to 100 H.-P.

If you want the Best Buy the Lambert. It's the Cheapest Because the Best. It's the Best Because most Reliable, Durable, Economical, and Efficient and is not an experiment.

The Lambert Gas & Gasoline Engine Co.,
720 W. Third St., Anderson, Ind.





THE QUESTION OF PROFIT in operating a grain elevator is closely connected with the arrangement and quality of the machinery used. **For twenty-two years** our business has been the designing, manufacturing and arranging of **machinery for grain elevators**, and our success has been such that at present we are the largest manufacturers of this class of machinery in the world.

If you are going to **build** or **repair** your elevator this season, write us and we may be able to offer some profitable suggestions.

Send for Catalogue No. 15.



WEBSTER MFG. CO.,

1075-1097 W. FIFTEENTH STREET,

CHICAGO.



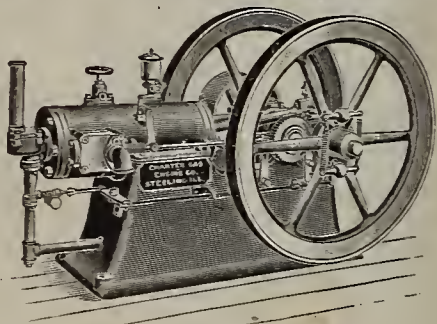
MILLERS,

GRAIN
STOCK
CREAMERY
AND ALL OTHER

MEN

ARE APPRECIATING

THE "CHARTER."



USED ANY PLACE,
BY ANY ONE,
FOR ANY PURPOSE.

(STATIONARIES, PORTABLES, ENGINES AND PUMPS, ETC.)

PROOF, BY ADDRESSING

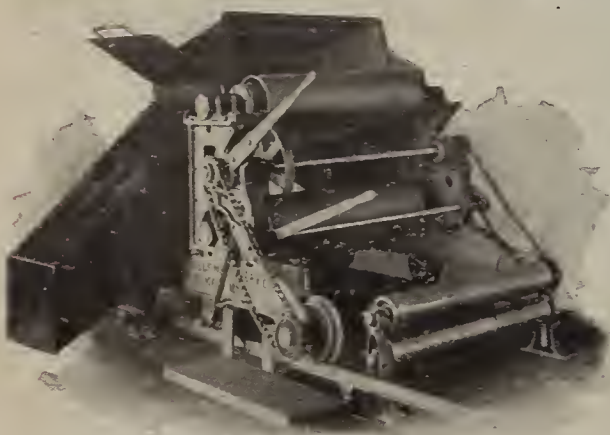
CHARTER GAS ENGINE CO., 400 Locust Street, Sterling, Ill.

THE LINK-BELT MACHINERY CO.

ENGINEERS, FOUNDERS, MACHINISTS,

CHICAGO, U. S. A.

GRAIN ELEVATOR MACHINERY



LINK-BELT ENGINEERING CO., PHILADELPHIA AND NEW YORK.

INCLUDING

Belt Trippers,
Power Shovels,
Spouts, Buckets, Boots,
Machine Molded Rope
Sheaves,
Shafting, Pulleys,
Shaft Bearings,
Gearing,
Friction Clutches, Etc.



WELLER CONVEYOR.

Elevator Buckets,
Elevator Boots,
Power Grain Shovels,
Trippers,
Car Pullers,
Loading Spouts,
Belting, Etc., Etc.



Pulleys,
Rope Sheaves,
Shafting,
Hangers,
Clutches,
Sprocket Wheels,
Link Belting, Etc., Etc.

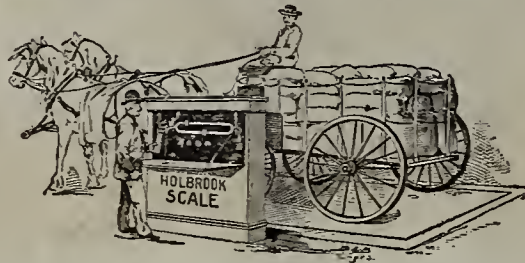
WRITE FOR GENERAL CATALOGUE NO. 12.

Estimates given on Complete Grain Elevator Equipments.

WELLER MFG. CO. Office: 118 and 120 North Avenue, Chicago.

WAGON, HOPPER, PORTABLE AND DUMP SCALES.

Elevator Machinery of Every Description.



WESTERN AGENTS FOR THE

Charter Gasoline Engines.

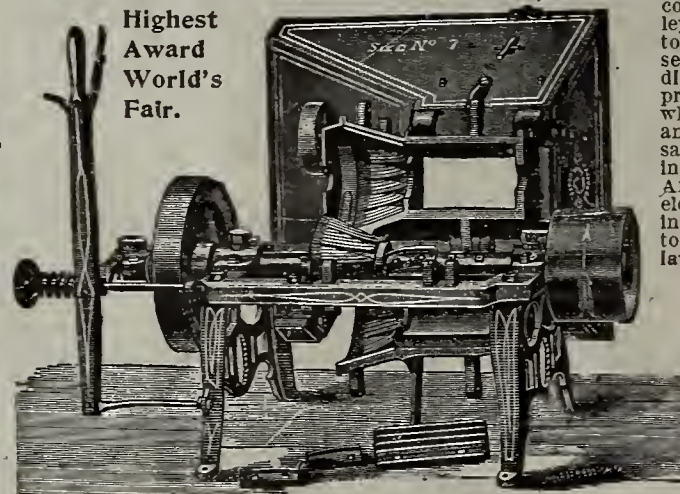
Write for prices. Address

C. D. Holbrook & Co.,
305 3d St. So., Minneapolis, Minn.

THE BEST ALL-AROUND FEED MILL

The conical burrs give large capacity with moderate power. Ahead of rolls or burrs in speed and quality of work for grinding all kinds of grain into first-class feed. Will crush corn and cob and grind oats, rye, barley, wheat, shelled corn, cottonseed, oil cake, etc. Has self-feeder for ear corn. The divided hopper makes it practical to grind oats, wheat or other small grain and crush ear corn at the same time, mixing the two in any proportion desired. Are sold with or without elevator attachment. Made in six sizes, ranging from 2 to 25 horse power. Get our latest circular.

Gold Medal Atlanta Exposition.

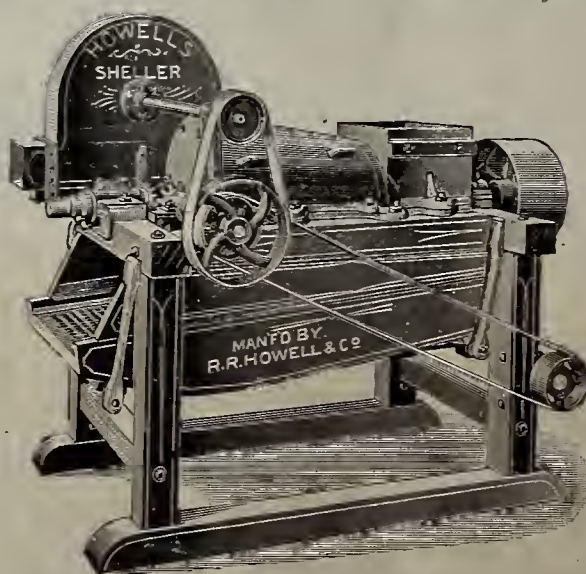


Highest
Award
World's
Fair.

YES, We still make
"Ready Dressed"
MILL COGS
and Bowsher's Speed
or Motion Indi-
cator and
Superior Hard Maple
Conveyor Flights.

THE N. P. BOWSHER CO., South Bend, Ind.

THE "HOWELL" POWER CORN SHELLER



SHELLS the corn clean from the cob and cleans it perfectly.

Simple and durable.

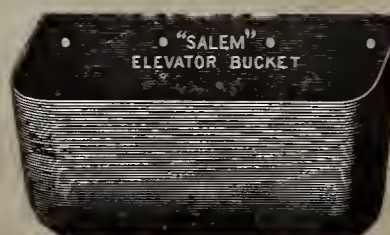
Dustless, easily adjusted to suit the corn and can be changed to run in either direction. Chilled shelling surfaces. The best sheller in the market.

WRITE FOR PRICES.

R. R. HOWELL & CO.,

MINNEAPOLIS, MINN.

NEVER A PEER



The Salem Bucket has had imitators, but never an equal. The most ever claimed by competing buckets is that they "are as good as the Salem."

We fixed the standard to which others aspired, but the Salem is now, as it always has been, incomparably the

BEST BUCKET MADE.

The BEST is what you want. It is the cheapest and most satisfactory in the end. Besides, the Salem is sold as low as other buckets.

ALL KINDS OF SHEET AND PLATE METAL WORK.

THE W. J. CLARK CO., Salem, Ohio, U. S. A.